

# United States District Court

EASTERN DISTRICT OF MISSISSIPPI

NORTHERN DIVISION, WILCOX COUNTY

JOHN R. SMITH, SOVEREIGN & ATLANTIC  
RAILWAY COMPANY

Complainant,

Former C. C.  
No. 4117.

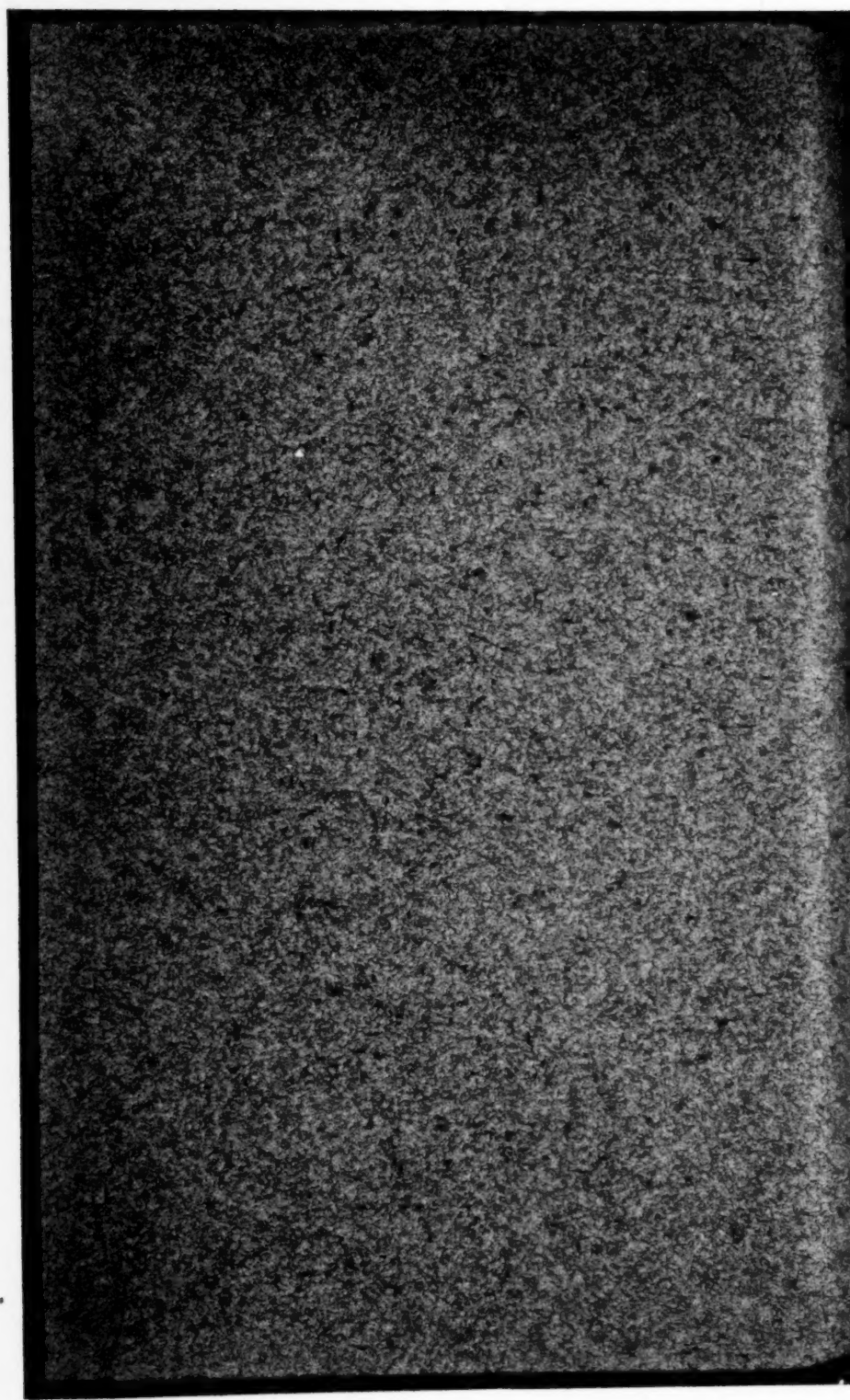
GRANT BULLOCK, CLARENCE S. GRASCOW,  
Lawrence T. HARRIS, C. S. CUM-  
MENCEY ET AL.

Defendants

REPORT OF HERBERT L. BAKER

Special Master

(Filed February 1, 1917.)





# United States District Court.

EASTERN DISTRICT OF MICHIGAN,

SOUTHERN DIVISION, IN EQUITY.

---

DULUTH, SOUTH SHORE & ATLANTIC  
RAILWAY COMPANY,

Complainant,

vs.

Former C. C.

GRANT FELLOWS, CASSIUS S. GLASGOW,  
LAWTON T. HEMANS, C. S. CUN-  
NINGHAM, ET AL.,

No. 4117.

Defendants.

---

**REPORT OF HERBERT L. BAKER,**

**Special Master.**

(Filed February 1, 1917.)

---

The Bill of Complaint in the case was filed to restrain the operation of, and to relieve the complainant from, compliance with Act 276 of the Public Acts of Michigan, of 1911, which reduced the rates of fare permitted to be charged by railroad companies operating in the Upper Peninsula of Michigan.

The complainant, a corporation organized under the general railroad laws of Michigan, operates a railroad

of approximately four hundred seventy-five miles, crossing the northern peninsula of Michigan from Sault Ste. Marie upon the east to the Wisconsin State Line upon the west, the complainant doing both an intrastate and an interstate business in Michigan.

In 1911, the Michigan Legislature, by the Act complained of, Act 276, reduced the rate of charge for the carriage of passengers for railroad companies operating in the Upper Peninsula from three to two cents per mile for all those companies, the gross earnings of whose passenger trains as reported to the Commissioners of Railroads for 1906 equaled or exceeded \$1,200 per mile of road operated; this act permitted three cents per mile to be charged for all distances not exceeding five miles, and also required children under the age of twelve years to be carried at half fare.

The grounds for relief alleged in said bill and made the basis of the prayer to restrain the operation of the statute as applied to the complainant, were the following:

(1) That the act, though applicable in terms to intrastate passenger carriage only, will, by its necessary and direct effect, cause the reduction of interstate passenger fares, for which reason it is unconstitutional, as interfering with interstate commerce. This point has been disposed of adversely to the claim of the complainant in the *Minnesota Rate Cases* and associated cases.

(2) That said act deprives the complainant of its rights of property in violation of the Fourteenth Amendment, in that said rates are unreasonable and inadequate, and therefore confiscate its property.

(3) That the said rates do not afford sufficient or reasonable compensation for the service required to be rendered in consideration thereof.

The answer to the bill upon behalf of the state officials

made defendants, denies practically all the material averments of the bill as to the effect of the Act in question upon interstate business rates, and upon the amount of return which would be permitted to complainant upon its property necessarily engaged and used in carrying on its business and in the several classes or parts thereof.

After the cause was at issue, I was appointed Special Master to take proofs and report thereon. Very extensive records, consisting of 12,000 pages of oral testimony taken and reduced to writing, and many exhibits, were presented by the proofs of the respective parties. Numerous briefs were prepared by respective counsel, and there was an exhaustive oral argument. I then prepared a proposed report and furnished counsel for the respective parties with copies thereof, and stated to them, in substance, that the report was intended to cover everything except the question as to what is required to constitute a sufficient rate of return, which question I reserved for consideration until it should be known whether the rate of return shown by the report would be materially affected by my consideration of the objections which counsel might make thereto. I also further stated to them as follows: "In dealing with such a mass of material and such a multitude of questions, many of which were very perplexing, errors or omissions are almost inevitable, and I am particularly desirous that counsel will call my attention, either by way of objection or otherwise, to everything thought to be erroneous, so that it may be duly considered.

Counsel were requested to serve copy of their objections on opposing counsel.

Thereafter counsel for each party filed objections, as requested, and I then requested that counsel for each side should answer the objections of the other side. Counsel for complainant thereupon answered in detail all

of the objections of counsel for the defendants, excepting only those with reference to which defendants made no argument but stated that they reserved the right to make the objection to the Court. Counsel for the defendants did not answer the objections made by the complainant, but did answer complainant's reply to defendants' objections.

On careful consideration of these objections, I found that some errors had been made in my findings of facts, and also found occasion to change my views with reference to other questions of fact, and in some instances with reference to matters of law, and also found occasion to discuss further some of the more important questions involved. This report embodies the said tentative report with such changes in and additions to the same as were thus found to be required. All such changes and additions are, I believe, fully noted and explained either in my discussion of the various objections or elsewhere. I found it desirable also to make some slight changes in the language of the tentative report for the sake of clearness, and in many instances percentages and other figures are necessarily different. These changes I have not in general noted, because they are of no interest or importance to the Court and they will be readily recognized and understood by counsel. The exhibits which were attached to the tentative report have been revised accordingly.

I have attached to my report the objections of the respective counsel, together with my answers thereto. With reference to such answers, I found it desirable, for the sake of perspicuity, to embody them as far as practicable in the main body of the report and in immediate connection with the subject to which they relate. This I have done, and wherever an answer is so embodied, I have not repeated it in the answers attached, but have



there stated instead where it would be found in the body of the report.

These objections cover substantially the entire case and involve a great many questions, but I have been able to consider those questions fully without the aid of further oral argument by reason of the fact that I have had before me not only the voluminous printed and type-written briefs submitted by counsel, but also a complete stenographic report of the very full oral arguments heretofore had in the case.

I have embodied in this report a statement of the method adopted for the division of passenger property between the interstate and intrastate services, which statement was inadvertently omitted from the tentative report.

The defendants request me to find, and I so find, that in the determination of this case, the following principles are to be recognized:

(1) The right exists in the state to regulate the rates of public service corporations and of those who devote their property to serving the public. The principle being fixed, the question remaining is, what are the limitations upon it?

Granger case, 94 U. S., 113, 155, 164, 179.

Railroad Commission Cases, 116 U. S., 307.

(2) The authority of the state to regulate rates is not without limitation. That authority is to declare and fix reasonable rates, taking into consideration both the interests of the property owners and the public. The generally expressed and controlling limitation is that vested rights of property cannot be destroyed by the fixing of rates so low as not to be remunerative. In other words, the value of the property cannot be destroyed by

taking away the ability to earn a reasonable return upon it.

Reagan vs. Farmers' Loan & Trust Co., 154 U. S., 362.

Smyth vs. Ames, 169 U. S., 466.

(3) The authority to determine reasonable rates by a state, through its legislature or a regularly constituted commission, is subject to judicial review, to determine whether the return permitted is sufficient, or whether vested property rights are in fact interfered with or destroyed.

Chicago & Grand Trunk vs. Wellman, 143 U. S., 339.

Reagan vs. Farmers' Loan & Trust Co., 154 U. S., 362.

(4) The owner of the property devoted to a public use is entitled to maintain a schedule of rates sufficient to pay a fair and reasonable return upon the value of the property devoted to the public service.

San Diego Land & Town Co. vs. National City, 174 U. S., 739.

Willeox vs. Consolidated Gas Co., 212 U. S. 19.

(5) The value is not dependent upon the original cost of the property, the amount or value of stocks or bonds issued, or the value as influenced by past earnings. The cost of reproduction, allowing for depreciation sufficient to reduce the property to present condition has, in certain cases, been treated as the value.

San Diego Land & Town Co. vs. National City, 74 Fed. 79; 174 U. S. 739.

Smyth vs. Ames, 169 U. S., 466. 546.

San Diego Land & Town Co. vs. Jasper, 189 U. S., 439.

Knoxville vs. Knoxville Water Co., 212 U. S., 1, 9.  
Seaboard Air Line vs. Ry. Commission of Alabama, 156 Fed. 792, 806.

Louisville & Nashville Ry. & Light Co. vs. Milwaukee, 87 Fed. 577, 584.

Matthew vs. Board of Corporation Commissioners of North Carolina, 106 Fed. 7.

Railroad & Telephone Companies vs. Board of Equalizers of Tennessee, 85 Fed. 302.

Cotting vs. Kansas City Stock Yards, 183 U. S., 79.

(6) In the case of a property engaged in both interstate and intrastate business, where the question is the sufficiency of the rates under a state regulating statute, the interstate earnings and property must be eliminated and the intrastate rates and earnings applied to the property engaged in that business, to determine the sufficiency of the return.

Smyth vs. Ames, 169 U. S., 466.

Arkansas Rate Cases, 187 Fed. 290.

Minnesota Rate Cases, 230 U. S., 435.

(7) While no fixed rate of return is applicable to all properties, the rule seems to be that the rate of return to which a property is entitled is ordinarily that at which capital will seek investment in properties of similar character in that community or locality.

Shepherd vs. Northern Pacific, 184 Fed. 815.

Willeox vs. Consolidated Gas Co., 212 U. S., 19, 48.

Capital City Gaslight Co. vs. Des Moines, 72 Fed. 829.

San Diego Water Co. vs. San Diego, 118 Cal. 556; 50 Pac. 637.

Spring Valley Water Works vs. San Francisco, 124 Fed. 574.

Central of Georgia vs. Railroad Commission, 161  
Fed. 925, 993.

Milwaukee Electric Railway & Light Co. vs. Milwaukee, 87 Fed. 577, 855.

(8) The presumption of reasonableness and sufficiency follows the legislative rate. Before a rate will be set aside as insufficient, it must be proven to be so beyond a reasonable doubt. The presumption of reasonableness can only be overcome by showing that the rates fixed are clearly and palpably in violation of the rights of the owners of property, and are so low as to amount to a confiscation of property through depriving it of the right to a reasonable return. The burden of proof to overcome the presumption of reasonableness is upon the complainant attacking it.

Knoxville Water Co. vs. Knoxville, 12 U. S. 1.

San Diego Land & Town Co. vs. National City, 174  
U. S. 739.

(9) The value upon which a return is required to be paid is that at the time the validity at the rates sought to be enforced is in question.

Smyth vs. Ames, 171 U. S., 361, 365.

Willcox vs. Consolidated Gas Co., 212 U. S., 19, 52.

San Diego Land & Town Co. vs. National City, 174  
U. S., 739, 757.

(10) Each case must depend upon its own special facts.

Wood vs. Vandalia, 231 U. S., 7.

Minnesota Rate Cases, 230 U. S., 434.

The determination of this case on the record presented involves the consideration and determination of many intricate and complex propositions. Briefly stated, the principal and general propositions, each of which will



allow of considerable separation and under each of which a number of separate questions will arise, may be stated as follows:

(1) The amount and value of the property engaged in the public service business, intrastate in Michigan.

(2) The gross income produced by that business.

(3) The operating expenses and fixed charges to be deducted from that income.

(4) The rate of return furnished by the net income upon the value of that property.

(5) Other questions are raised by the record which involve the determining of:

(a) The proportion of the property engaged in each separate class of the business done by the company; namely, passenger and freight; and the division of that engaged in each, between the interstate and intrastate business.

(b) The gross income arising upon the business of each class, together with the portion of the expenses and charges properly attributable thereto, and the net income therefrom.

As an aid to a fuller understanding of the complainant's status and its relations to the State and to the public which it serves, the following undisputed facts are specifically found:

*Incorporation of Complainant, its Railroad and Financial Status.*

The complainant is a consolidated railroad corporation duly created in 1887 under the laws of the State of Michigan, has its principal office in the City of Marquette in the State of Michigan, and owns, maintains, and operates lines of railroad in the State of Michigan and

Wisconsin, and, in order to reach Duluth, operates its trains thereto over a line of railroad of another company from the City of Superior, Wisconsin.

As of June 30, 1913, its system of railroad, including its main line and its branches, comprised 601.66 miles of railroad, owned by it, and about 20.83 miles of railroad over which it operated its trains under agreement with other companies, and 491.61 miles thereof are situated within the State of Michigan. Its line extends from Sault Ste. Marie, Michigan, to Duluth, Minnesota, with a branch from Soo Junction in Luce County, Michigan, to St. Ignace, and a branch from Nestoria, in Baraga County, to Houghton, in Houghton County, Michigan, and other short branches in that state.

The whole of said railroad constitutes one system, and long has been, and is now operated as such. Its cars, engines, supplies and appliances are, for the most part, used upon the system wherever required, without regard to state lines. It is impossible to operate separately with due regard to economy or the interests of the public that portion of the system of the complainant situate in any particular state. To a large extent, the trains of the complainant, both freight and passenger, necessarily move between different states, and even when their movements are confined to one state, the same trains and the same cars carry both interstate freight or passengers and intrastate freight or passengers.

#### *Stocks and Bonds Outstanding.*

As of June 30, 1913, the complainant had outstanding common stock of the par value of \$12,000,000 and preferred stock of the par value of \$10,000,000. It also had outstanding first mortgage five per cent bonds of the par value of \$3,816,000, and consolidated four per cent mortgage bonds of the par value of \$15,107,000, and

in addition covering (as a first lien thereon) its main line from Marquette to Houghton and its branch from Humboldt to Republic, Michigan, with the side tracks and other property appurtenant to such main line and branch line, and constituting about one hundred and four miles of its railroad in Michigan, six per cent mortgage bonds of the par value of \$1,077,000. In addition, it had outstanding four percent income certificates of the aggregate par value of \$3,000,000 and certain car trust obligations constituting a first lien on certain of its equipment and rolling stock of the par value of \$398,213.19.

#### *Book Cost of Railroad.*

As of June 30, 1913, the book cost of the entire railroad and equipment of the complainant, exclusive of a reserve fund of \$420,217.42, held for accrued depreciation was the sum of \$46,767,309.16.

#### *Acquisition by Complainant of Present System.*

The railroads comprising the present system of the complainant were acquired by it as follows:

That portion of said railroad extending from St. Ignace to Marquette, Michigan, and which was constructed in 1880 and 1881 and was then generally known as the Detroit, Mackinaw and Marquette Railroad, was purchased from its owners in 1886 by the Mackinaw and Marquette Railroad Company which, with other railroad companies, became in 1887, by consolidation, the complainant.

That portion of the said railroad (partly constructed in 1865, in 1872 and 1883) extending from Marquette to Houghton, and commonly known as the Marquette, Houghton and Ontonagon Railroad (including the certain line of railroad from Marquette to Ishpeming, known as the Marquette and Western Railroad, constructed in

1883, and owned in the same ownership) was purchased by the complainant in 1890.

That portion of said railroad extending from Nestoria, Michigan, to Iron River, Wisconsin, was constructed by a railroad syndicate and purchased by the complainant in 1888.

That portion of said railroad extending from Iron River, Wisconsin, to Superior, Wisconsin, was constructed by the complainant in 1892, and that portion of said railroad extending from Sault Ste. Marie, Michigan, to Soo Junction, Michigan, was constructed by the complainant in 1887.

In acquiring all said railroads, the complainant only received in public lands, 82,385.29 acres, and those were acquired by conveyance from the Marquette, Houghton and Ontonagon Railroad Company. It received as a grant direct from the United States rights of way for 55 miles of its railroad lines in Michigan.

The said Marquette, Houghton and Ontonagon Railroad was bought subject to the six per cent bonds hereinafter described. The outstanding stocks and the other outstanding bonds of the complainant were issued mainly in payment for parts of said railroad and the balance were sold and the proceeds used in the construction of the remainder of the railroad of the complainant.

*Entire Operation of Complainant's Railway and Its Financial Results.*

From its organization in 1887 to June 30th, 1913, as well as up to the present time, the complainant has never paid any dividends on either its preferred or common stock, or otherwise made any return to the owners of the property upon their investment. For the period commencing with the incorporation of the complainant down to June 30th, 1913, the complainant, after paying



its operating expenses and taxes, has failed to earn enough to pay all the interest on all its outstanding bonds (which for the last twelve years has been \$859,700 annually) and is in default on such interest to the extent of \$4,624,562.47.

The results in each year of the operation of the complainant's railroad as shown by its books are specifically shown in the following statement of the operations of the complainant from the time of its organization down to June 30, 1913 (the same being Sheet 1 of Complainant's Exhibit 54 Delf.)

Complainant's Exhibit 54—Delf.

(Revised by the addition of figures for the year 1913)

Sheet 1

Duluth, South Shore & Atlantic Railway Company.

STATEMENT OF OPERATIONS.

Year ended	Gross Earnings	Operating Expenses	Net Earnings	Other Income	Total Income	Taxes Accrued	Interest on Bonds	Other Deductions from Income	Profit or Loss
Dec. 31, 1887...	\$ 1,465,689.23	\$ 861,730.89	\$ 603,958.34		\$ 603,958.34	\$ 31,091.57	\$ 265,758.07	\$ 175,919.68	\$ 131,189.02
1888.....	1,468,592.16	883,798.06	584,794.10	\$ 8,306.33	593,100.43	36,158.48	440,072.00	196,707.31	79,837.36
1889.....	1,976,350.38	1,146,876.12	829,474.26	2,838.00	832,312.26	36,956.25	519,352.00	329,670.57	53,666.56
1890.....	2,241,097.12	1,422,703.81	818,393.31	1,158.00	819,551.31	43,844.95	519,012.00	313,417.86	56,723.50
1891.....	2,160,118.24	1,335,592.34	827,825.90		827,825.90	44,825.90	516,932.00	253,692.62	12,375.38
1892.....	2,249,194.25	1,484,695.20	764,499.05		764,499.05	44,569.61	671,704.34	165,716.63	117,491.53
1893.....	2,078,777.54	1,474,754.88	604,022.66	10,135.51	614,158.17	42,846.18	870,166.66	298,854.67	334,459.40
1894.....	1,670,987.00	1,094,238.81	576,748.19	3,787.48	580,535.67	44,024.97	868,000.00	2,950.10	183,326.81
1895.....	1,811,823.03	1,121,503.33	690,319.70	55,076.00	745,395.70	33,601.65	866,385.00	26,735.86	196,884.23
1896.....	1,905,810.53	1,234,679.67	671,130.86	32,402.20	703,533.06	38,462.47	861,098.34	856.47	362,155.08
1897.....	1,591,114.88	1,064,723.70	526,391.18	20,607.56	546,998.74	41,031.71	860,168.33	7,953.78	298,191.80
1898.....	1,821,807.59	1,224,045.79	597,761.80	5,417.91	603,179.71	41,754.84	859,616.67	16,067.66	14,057.44
1899.....	2,407,437.39	1,468,896.17	938,541.22	4,937.31	943,478.53	53,653.43	859,700.00		4,169.57
1900.....	2,537,973.46	1,628,839.21	929,134.25	5,446.45	934,580.70	78,990.27	859,700.00		

June 30, 1902.	2,660,569.36	1,684,818.84	1,017,750.52	1,028,710.13	200,213.67	859,700.00	2,647.00	283,451.16
1903.	2,772,134.67	1,758,089.74	1,014,044.93	786,639.91	210,391.07	859,700.00		206,552.45
1904.	2,524,612.07	1,749,456.12	775,155.95	11,483.96	216,733.73	859,700.00		156,356.10
1905.	2,706,936.02	1,852,705.09	854,230.93	15,650.35	869,881.28	859,700.00		13,593.40
1906.	3,057,775.40	2,057,459.76	1,000,315.64	9,112.88	1,009,428.52	859,700.00		25,503.76
1907.	3,311,878.06	2,320,857.89	991,020.17	8,930.48	999,950.65	859,700.00	Dep. 35,539.30	356,661.18
1908.	2,986,958.38*	2,252,786.68†	734,171.70	30,403.22	764,576.92	859,700.00	" 26,204.21	230,027.77
1909.	2,785,586.83*	2,037,900.83†	747,686.00	146,208.67	803,894.67	859,700.00	" 32,418.53	351,714.96
1910.	3,372,089.65*	2,330,599.63†	1,041,490.02	30,658.14	1,092,148.16	859,700.00	" 173,616.86	68,419.01
1911.	3,219,861.53*	2,330,955.87†	888,905.68	249,569.69	1,138,475.37	859,700.00	" 112,673.78	412,235.08
1912.	3,224,906.58*	2,464,234.01†	760,672.57	39,238.61	799,911.18	859,700.00	" 93,325.98	\$4,001,350.27
Total, 1888-1912.	\$61,228,605.63	\$41,078,463.49	\$20,150,142.14	\$736,371.60	\$20,886,513.74	\$19,724,215.41	\$2,292,930.23	596,198.04
1913.	3,495,672.33*	2,502,658.57†	693,013.76	34,806.30	727,820.06	859,700.00	Dep. 46,072.54	198,620.53
Total.	\$64,724,277.96	\$43,881,122.06	\$20,843,155.90	\$771,177.90	\$21,614,333.80	\$3,180,343.40	\$2,537,623.30	\$4,687,548.31

\*Includes revenue from Sleeping and Dining Cars.

†Includes expenses of Sleeping and Dining Cars.

*Complainant's Railroad Well Located, Etc.*

The railroad of the complainant is well located, was built pursuant to a public demand therefor, and is honestly, economically and efficiently operated and maintained.

At least ever since the commencement of this action, said railroad has been, and is now, well equipped, reasonably well maintained, and otherwise ample for the performance of the freight and passenger service required of it; and it has been and is being maintained and operated at a standard of excellence and efficiency as to road bed, structures, equipment and service on account of its passenger traffic, which the complainant claims is higher than would be reasonably required if its business consisted only or for the most part, of freight traffic.

The several railroads now constituting complainant's railroad system were constructed in response to a public need, and if they were now obliterated, the public need for their services would justify and require their reproduction.

*Original Cost Largely Unknown.*

Outside of the very small parts of said railroad constructed by it, the complainant does not know, and has no means of ascertaining the original cost of its system of railroads, or of any part of the main or branch lines thereof.

*Earning Power of Complainant's Railroad as Affected by Water and Railroad Competition.*

The railroad of the complainant is practically in direct competition with water transportation between Sault Ste. Marie and Duluth by Lake Superior and, for a large part of the way, with railroad transportation. During all the time since the commencement of this action, and for



many years prior thereto, the complainant has been and now is, in active competition with such water and rail transportation, and during all of said times, the freight and passenger rates of the complainant have largely been influenced by water and all rail interstate competitive and commercial conditions.

*Earning Power of Complainant's Railroad as Affected by Passenger Rate Legislation in Michigan.*

From the year 1867, when the first statute was passed regulating passenger rates in Michigan until the year 1889, the law authorized the complainant to charge 5¢ per mile for transportation of adults within the State of Michigan. In 1889 the law was amended so as to fix the maximum charge for this railroad at 4¢ a passenger mile. In 1907, the statute was again amended to reduce the rate to 3¢ a passenger mile, and in 1911 the Legislature passed the Act complained of in this case, being Act No. 276 of the Public Acts of 1911. This Act in brief provided that for all companies, the gross earnings of whose passenger trains as reported to the Commissioner of Railroads equaled or exceeded the sum of \$1,200 per mile for each mile of road operated by any such railroad company on which regular passenger service is maintained, the maximum charge should be 2¢ per mile. For children under twelve years of age, a charge of half the above fare is provided.

Said Act No. 276 was approved and became effective August 1st, 1911. The passenger earnings of the complainant as reported to the Commissioner of Railroads for the State of Michigan for the year 1906 and for each subsequent year reported, down to the present time, exceeded the sum of \$1,200 per mile for each mile of railroad operated by it within the State of Michigan on which regular passenger service was maintained.

In the consideration of this case, we are met at the outset by a claim of the defendants, which, if sustainable, would be decisive of the entire case, and would obviate any necessity for considering the question of the constitutionality of the statute. That claim is that the complainants are estopped from questioning the validity of the statute by reason of the acceptance of certain land-grants made to their predecessors. This claim will now be considered.

*Rights and Duties of the State and the Complainant Company Resulting from the Gift to Complainant's Predecessors of State and Federal Lands to Aid in Construction.*

The claim that the complainants are estopped from questioning the constitutionality of the statute is thus sated by the defendants:

“We believe that we have clearly established that complainant has no standing in this court, for the reason that its predecessors in ownership of parts of its roadway made valid contracts with the State by which, in consideration of the conveyance of enormous quantities of land in the Upper Peninsula, they agreed that the State would have the right and power at all times and in all matters to control them and that they should be subject to all Michigan laws.

“We have conclusively shown that the complainant is bound by, and subject to the obligations of those contracts and cannot now, in direct contravention of these contracts, question the validity of Act No. 276 of 1911.”

The facts out of which this claim grows are as follows:  
By Act of June 3, 1856, 11 U. S. Stat. at Large 21,

Congress granted certain lands to aid in the construction of certain railroads in the State of Michigan. Among the railroads provided for was one from Little Bay de Noquet to Marquette, and thence to Ontonagon. By Section 3 of that Act, it was provided,

“That the said lands hereby granted to the said State shall be subject to the disposal of the Legislature thereof, for the purpose aforesaid (the building of railroads) and no other; and the said railroads shall be and remain public highways for the use of the government of the United States, free from toll or other charge upon the transportation of any property or troops of the United States.”

By various Acts of Congress, to-wit: Joint Resolution of July 5, 1862, 12 U. S. Stat. at Large, 620; Act of June 18, 1864, 13 U. S. Stat. at Large 137; Act of March 3, 1865, 13 U. S. Stat. at Large, 420, the time for the completion of the roads provided for in the Upper Peninsula of Michigan was extended.

By Act of February 14, 1857, Laws of 1857, page 346, the Legislature of Michigan accepted the grants made by the Act of June 3, 1856, and disposed of the lands to certain railroads. Among the railroads named upon whom the land grants were conferred by the State was the Bay de Noquet & Marquette Railroad to aid in the construction of a railroad from Little Bay de Noquet to Marquette, and the Marquette & Ontonagon Ry. Co. to aid in the construction of a railroad from Marquette to Ontonagon.

By Section 5, each railroad to which lands were granted was required to accept the lands, franchises, rights, powers and privileges conferred by the Act, and to assent and agree to the provisions and requirements of the Act.

Section 8 of the Act created a commission called a Board of Control, whose duty it was to manage and dispose of such lands to aid in the construction of the aforesaid railroad, and to do any and all other acts necessary and proper respecting the construction of said railroads which shall be prescribed by law.

Section 12 of the Act was as follows:

“All of said railroad companies shall, at all times and in all matters, be subject to the laws of this state, and to such rules and regulations as may, from time to time, be enacted and provided by the Legislature of the State of Michigan, in regard to the management and disposition of the said lands not inconsistent with the provisions of this act, and the Act of Congress making said grant of land to this State, and they shall be entitled to all the immunities and privileges conferred by said laws; Provided, that nothing herein contained shall be so construed as to relinquish the right of the State to any specific tax imposed upon any railroad company within this State.”

Both these last mentioned railroads accepted the benefit of the Act, and the Bay de Noquet & Marquette constructed a line from Marquette to Ishpeming, and became entitled to about 128,000 acres, which were subsequently patented to the Marquette, Houghton and Ontonagon Railroad Company. Later, it consolidated with the Marquette and Ontonagon Railroad Company under the latter name.

The Marquette and Ontonagon Ry. Co. failed to build any part of its line or to comply with the Act of the Legislature or to earn any lands, and in consequence the Legislature of Michigan, by Act approved March 17, 1873, forfeited its grant, and conferred the lands upon

the Marquette & Ontonagon Railroad Company. Thereafter the said railway company ceased to have any interest in or connection with the land. <sup>1</sup>

By joint resolution of the Legislature, March 30, 1869, it was declared that the Marquette & Ontonagon Railroad Company had failed to complete its railroad as provided in the Joint Resolution of Congress of March 20th, extending the time for such completion and that, in consequence, the Legislature was authorized to declare the land grants to said company forfeited; but it gave a further extension of time, and provided that upon the failure of the company to construct certain portions of the railroad within a certain time specified, its grant should be forfeited, and that, in that event the Board of Control was authorized to confer said grants upon some other company.

Thereafter, on April 19, 1870, said Board of Control wholly forfeited the rights of the Marquette & Ontonagon Railroad Company in its land grants for non-performance.

It thus appears clearly that, while the Marquette & Ontonagon Railway Company and the Marquette & Ontonagon Railroad Company each accepted the provisions of said Act 126 of 1857, the State annulled and canceled said grants and the contract with said roads, on the ground that the companies never complied with the said Acts and never earned the grants or any part thereof.

On the same day on which this forfeiture was declared and by the same resolution, the Board conveyed said lands to the Houghton & Ontonagon Railroad Company upon certain conditions with which said last named company did not comply. Thereafter, by joint resolution of the Legislature of Michigan, of January 24, 1871, these lands were again granted to the Houghton & Ontonagon

R. R. Co. The joint resolution making the grant contains the following language:

“Resolved, by the Senate and House of Representatives of the State of Michigan, that the action of the Board of Control, so far as it relates to the conferring of said forfeited lands on the said Houghton & Ontonagon Railroad Company on said 19th day of April, A. D. 1870, be and the same is hereby ratified and confirmed without the conditions imposed by said Board; and be it further resolved, that the lands forfeited by said Marquette & Ontonagon Railroad Company are conferred on the said Houghton & Ontonagon Railroad Company subject only to the conditions, restrictions and requirements contained in the said Acts of Congress relating to the granting of said lands to the State of Michigan.”

The Houghton & Ontonagon Company accepted the grant only upon the terms of the said resolution of January 24, 1871, and it constructed and completed a sufficient line in compliance with law to earn 153,690.27 acres which the Marquette & Ontonagon Railway Co. had failed to earn, and also to earn an additional 44,578.12 acres, all of which lands were subsequently patented to the Marquette, Houghton & Ontonagon Railroad Company.

On or about September 2, 1872, the Marquette & Ontonagon Railroad Company and the Houghton & Ontonagon R. R. Co. were consolidated under the General Railroad Laws under the name of the Marquette, Houghton & Ontonagon R. R. Co., and so consolidating under the General Railroad Laws of Michigan were undoubtedly bound thereby; yet the Houghton & Ontonagon R. R. Co. already owned the land grants in question, except those secured from the Bay de Noquet R. R. Co., free from any restrictions, terms, or obligations imposed by said Act of 1857.



The Marquette, Houghton & Ontonagon R. R. Co. thereafter earned 180,389 acres on account of its own construction from Champion to L'Anse, but these lands were granted pursuant to the joint resolution of January 24, 1871.

By Act No. 197 of the Session Laws of 1875, the Legislature appropriated five sections per mile of its own swamp lands to aid in the construction of a line from the village of L'Anse to the Village of Houghton. The Act conferred power and authority upon the Board of Control of the State Swamp Lands to grant the lands to a railroad company and to prescribe the conditions of the grant, and a contract was entered into with the Houghton & L'Anse R. R. Co., a Michigan corporation, for the construction of this road, which was constructed, and thereby the railroad company earned 82,421.62 acres of State Swamp Lands. This act placed no obligation upon the constructing company other than to build the road. Only by inference was it required to operate it when constructed.

*The Detroit, Mackinaw & Marquette Grant.*

By Act No. 36 of the Session Laws of Michigan of 1873, an appropriation of the State Swamp Lands not to exceed 10 sections per mile, was made to aid in the construction of a railroad from the Straits of Mackinaw to Marquette. This road was to be completed before December 31, 1875. These lands were State Swamp Lands theretofore granted by the Federal Government to the State.

The granting act placed no obligation upon the constructing company except to construct the road and by inference to operate it. Unable to obtain the construction of the road under this Act, the Legislature passed subsequent Acts from time to time enlarging the grant and extending the time for construction, until finally the lands

were granted to, earned by, and patented to the Detroit, Mackinac & Marquette Company in March and April, 1883. This railroad was sold under foreclosure on October 20, 1886, and was purchased by Hugh McMillan and conveyed to him by deed recorded December 20, 1886. McMillan conveyed to the Mackinaw & Marquette R. R. Co., a Michigan corporation, which latter company, with certain other railroad companies, by consolidation in 1887, under the General Railroad Laws of the State, became the complainant.

The lands patented to the Detroit, Mackinac & Marquette Ry. Co. had been separately mortgaged. Neither the complainant nor its grantors ever had or acquired any interest in these lands.

The portion of the complainant's railroad from Neshota to Iron River, Wisconsin, was constructed by a railroad syndicate and purchased by the complainant in 1888, and it never had the benefit of any land grant.

That portion of complainant's railroad originally known as the Marquette & Western Railroad, and extending from Marquette to Ishpeming, was constructed without the aid of any land grant.

That portion of the complainant's railroad extending from Soo Junction to Sault Ste. Marie was constructed without the aid of any land grant.

That portion of the complainant's railroad extending from Marquette to Houghton, and commonly known as the Marquette-Houghton & Ontonagon R. R. Co., including the additional line from Marquette to Ishpeming, known as the Marquette & Western Railroad, was purchased by complainant in 1890, and conveyed by deed of conveyance to the complainant.

None of the public lands conveyed by the said Federal Land Grants, and patented to the Marquette, Houghton & Ontonagon R. R. Co. ever passed to the complainant.

In acquiring all of said railroads the complainant only received the 82,385.29 acres of swamp lands originally earned in the construction of the Houghton & L'Anse Railroad. No part of the swamp lands granted in aid of the Detroit, Mackinac & Marquette Railroad ever came to the complainant, directly or indirectly.

The argument of the defendants in support of their contention is based upon the provisions of Sec. 12 of the Act of Michigan of 1857, above quoted. The line of reasoning is that before the Act was passed, all railroad companies were subject to the existing laws of the State and of the United States, and to such changes in these laws as do not infringe constitutional limitations; that in the declaration of Sec. 12, that "all of said railroad companies shall at all times and in all matters be subject to the laws of this State", the word "laws" must conclusively be presumed to have meant more than merely constitutional laws, because, otherwise, the provision would be useless; also that it cannot be "referred only to valid and constitutional laws, and thus to the laws allowing sufficient return from rates charged," but must go farther, because it must be construed most favorably to the public.

It is obvious that this contention goes to the extent of claiming that the land grant referred to and its acceptance constituted an agreement under which the Legislature had the power to fix uncompensatory rates, both freight and passenger, at its will and that the exercise of such power would be a benefit to the public.

I am unable to agree with this construction of the statute. The effect of such construction would be to hold that the Legislature, although it had granted these lands to aid in the construction of these railroads, might, by fixing uncompensatory rates, both freight and passenger, effectually take away the property which it had granted

and so defeat the very purpose which both the State and the United States had in causing these roads to be constructed. The Complainants ask me to find that such a construction would be inconsistent with the purpose expressed by Congress in the Act granting the lands, viz: "that these railroads should be and remain public highways for the use of the government of the United States" and also to find that if the Legislature had the intention claimed by the defendants in the adoption of Sec. 12, the section would be void as a contract made in favor of the State of Michigan in violation of its duties as trustee, and any acceptance of it by a railroad company void, as against public policy, and I so find.

Upon the question whether such contract was entered into, I find that it was not. I cannot believe that it was contemplated or intended by either of the parties in interest. To my mind, it is unbelievable that the parties accepting the land grant did so with the understanding that their property was to be placed so completely under the control of the Legislature as it would be under such an agreement. It is not believable that owners of capital available for railway investment would, as a business proposition, thus part with the control of their capital or property.

And it is equally unbelievable that the Legislature intended to so frame its railroad laws as to place such a ban upon railway investments in the State as would result from thus making the stocks and bonds of these Michigan railroads unsalable in the world's markets. It is to be presumed always that in the enactment of every law the Legislature intends to benefit the State, but such a law would not only not benefit the State but would be a distinct injury, and this fact should be considered in seeking the legislative intent, for although it is not competent for the judiciary to review the judgment of the Legisla-

ture upon questions of public policy, and refuse enforcement of a law on the ground that it would be an injury to the State and the public, it is competent and proper, in the interpretation of Statutes for the Courts to consider the results that would inevitably or probably follow from any proposed interpretation—such consideration being not for the purpose of nullifying the legislative intent by judicial vote of an undesirable statute, but for the purpose of discovering and effectuating the real intention and purpose of the statute. The fact that the interpretation claimed by defendant would be injurious to the State tends strongly to show that the Legislature did not so intend, and the question whether they did so intend is all that concerns us here. It is true that in the interpretation of a statute effect should as a rule be given to all the language of the statute, but the rule is not inflexible and does not demand interpretation beyond the necessities of the case under discussion. In this case, it is not necessarily incumbent upon us to find something upon which the language in question could effectually operate, or to find what the Legislature actually intended by the language used; our only concern is to determine whether the legislature intended by this language to impose the condition in question.

If we fail to find that the Legislature so intended, it is of no consequence to us in this case what their intention was in using the language in question. Did they so intend? The claim that they did so is based wholly on the language in question, but I am unable to find in that language anything which would justify the inference of such intention. On the contrary, so far from indicating such intention, the language employed seems to me to be incompatible with the existence of such intention. If the Legislature had such intention, it was their duty to express it clearly and unequivocally. Nowhere are clear-

ness and accuracy of expression more imperatively demanded than in Legislative enactments. The construction claimed by defendants would involve, it seems to me, an unbelievable dereliction of duty in this regard. According to that claim, the idea that the Legislature had in mind and there intended to express could, and would have been clearly, accurately and easily expressed, had they made in the statute the following provision: "In consideration of the lands hereby granted, the companies receiving the same agree to accept and abide by any freight tariff or passenger fare which the Legislature may provide, and thereby waive any and all rights which they would otherwise have under the Constitution to question the validity or legality of such rates on the ground that they are confiscatory of the company's property."

Now, if this was what the Legislature intended, why did they not say so? Why did they choose, rather, to cloak their intention in ambiguous, enigmatical, and misleading language? I can see no possible reason for such choice. If they had desired to impose the condition covertly and entrap unwary investors, the choice would have been a good one—a prospective investor would not have suspected that this innocent looking provision covered such a pitfall—but that the Legislature had any such motive is a supposition that cannot be entertained for a moment. On the contrary, we must assume that the Legislature sought diligently to avoid forms of expression that would be ambiguous and misleading, and this assumption, it seems to me, precludes any inference that the Legislature had the intention claimed by defendants.

To sum up:—in view of these three considerations, viz:

- (1) that it would involve a breach of trust;
- (2) that it would be detrimental to the interests of the State; and



(3) that it involves the assumption that the Legislature having a certain intention which could readily have been clearly and accurately expressed, and being under solemn obligation to so express it, deliberately chose not to so express it, but employed, instead, a form of expression which was obscure, uncertain and misleading—in view of these considerations, I say, I find it impossible to believe that the Legislature intended to impose the condition in question; and therefore that the complainants are not estopped from questioning the legality of the prescribed rate.

If, however, I am wrong in this conclusion—if the complainants are, as regards any part of its railroad, estopped by the acceptance of land grants from questioning the legality of the prescribed rate, I find upon the facts hereinbefore stated that such estoppel applies to only a part of their railroad; that Sec. 12 above discussed is applicable only to the twenty (20) miles of railroad constructed by the Bay de Norquet & Marquette Company, as the companies constructing the remainder of the roads receiving the grant therefor expressly took the grant “subject only to the conditions, restrictions and requirements contained in the Acts of Congress relating to the granting of said lands to the State of Michigan.”

Having found that the complainants are not estopped from questioning the validity of the prescribed rate, we come to the main question: Is the statute confiscatory?

As the law is well settled that a statutory rate is not confiscatory if it will yield a fair return upon the value of the property employed in earning the rate, and conversely, it is confiscatory if it will not yield such return, the precise question to be determined here is, whether the rate in question will yield such return.

Upon this question, the complainants allege that the rate will not, and the defendants allege that it will yield

such return; and a very great amount of testimony has been taken in support of the respective contentions.

In considering the effect to be given to this testimony certain questions have arisen as to the burden of proof and its requirements in this case which require to be determined preliminarily to the consideration of the effect of the testimony on the main issue. On this subject, the defendants claim that the presumption in favor of the constitutionality is of a very strong character requiring a very high degree of proof to overcome it, and that it extends not only to the main questions at issue, but to every subordinate question that may arise and requires everywhere the same degree of proof as on the main question. As this claim is very strongly urged and relied on by the defendants, and as it affects the consideration of every question in the case, it is desirable to consider carefully in advance the burden of proof in this case and its requirements.

*The Burden of Proof and Its Requirements in This Case.*

That the burden of proof rests upon the complainants in this case, and requires them to prove affirmatively that the statute in question is unconstitutional, no question is raised, but as to the precise degree of proof required to discharge that burden, there is much question and controversy, the claims of the respective parties in that regard being very conflicting.

The complainants claim that the burden of proof resting on them is discharged if "upon the whole proof the Court has a conviction reasonably free from doubt." And that "there is no single fact necessary for complainants to prove which may not be established by a fair preponderance of the evidence precisely as such fact may be established in any other civil action." The defendants claim, on the other hand, that the complainants'

proofs must go much further. They make, in this regard, two distinct claims; first, the extreme claim that the complainants must prove every material fact involved, "beyond the possibility of a doubt"; and second, the more moderate claim that complainants are required to prove every material fact beyond a reasonable doubt—substantially as the fact of guilt is required to be proven in criminal cases.

As the questions raised by these conflicting claims relate to rules which may affect the decision of every question of fact arising in the case, it is necessary to consider these questions of law before proceeding to consider the questions of fact to which they are to be applied.

Taking up those conflicting claims in the order of their mention, I find the complainants' is untenable. It is well settled that every legislative enactment is presumed to be constitutional until the contrary is proved, and this presumption in favor of the statute in question here the complainants must meet and overcome by proofs. Now, if there were no such presumption as this, the complainants would still be required to prove "every single fact" by a preponderance of evidence, so that, if their contention on this point were sustained, the presumption in favor of the validity of the statute would practically have no effect in the case. As it will not do to admit the existence of the presumption and at the same time deny that it has any effect, the complainants must do more than produce a mere preponderance of evidence in proof of essential facts, and the question, therefore, is how much more must they do?

The general answer to this question is well settled; and it is that they must prove their contention beyond a reasonable doubt. It has been so held in a long line of cases, including the well known one of *Ogden vs. Saunders*, 12 Wheat. 220, and has been uniformly recognized

by text writers; but as to what particular facts must be so proved there is much room for question.

As regards the defendants' claims the first, viz, that complainants must prove every material fact beyond the possibility of a doubt, I find untenable. It not only conflicts with the rule of reasonable doubt, above mentioned, but it would, if allowed, render it practically impossible to prove the unconstitutionality of any rate law, for in all such cases, the proof is, and in the nature of things must be, based largely upon estimates or opinion-evidence, and in such evidence there is always the possibility of a doubt.

The claim of the defendants appears to be based entirely upon the following language found in the decision in the Minnesota rate case:

"Doubtless there may be cases where the facts would show confiscation so convincingly in any event after full allowance for possible errors in computation as to make negligible questions arising from the use of particular methods."

I can see nothing in this language that indicates any intention on the part of the Court of thereby laying down any rule of evidence, much less a rule so drastic and so inconsistent with the general rule above mentioned, and with the general purpose of all judicial evidence.

So far from evincing such intention, the Court, in that very case, did not require the complainants to prove their contention beyond the possibility of a doubt—but only beyond a reasonable doubt in accordance with the general rule above mentioned.

That that rule—the general rule of reasonable doubt—must govern in cases involving the constitutionality of a statute there seems to be no uncertainty or room for question. But upon certain questions arising in the prac-

tical application of the rule, there is much question and considerable uncertainty.

The defendants claim that in order to satisfy the rule and prove beyond a reasonable doubt that the statute is invalid as against the complainants it is necessary to prove beyond a reasonable doubt every material fact averred in their complaint—that the presumption of constitutionality extends both to the main question as to whether the statute is confiscatory and also to every subordinate question involved in the determination of the main question; and that, in order to overcome the presumption as to any subordinate question, the same degree of proof is required as is required in regard to the main question.

As this claim is strenuously urged, and largely relied on to defeat the complainants' action, and as the defendants are entitled to whatever benefit the presumption of constitutionality affords, it is necessary to inquire into the precise nature and extent of the presumption in favor of the constitutionality of every legislative enactment, and the reason on which it is based. Wherever that reason exists, the presumption applies and must be overcome. What is that reason? Why is it that the judiciary, although it finds by a preponderance of evidence in a given case that a statute is unconstitutional, refused, nevertheless, to nullify the statute until the proof of its unconstitutionality goes farther and removes all reasonable doubt.

The answer to this question cannot be better stated than in the language of Mr. Justice Cooley, found on page 183 of his *Constitutional Limitations*, as follows:

“The constitutionality of a law is to be presumed because the Legislature which was first required to pass upon the question acting as they must be deemed to have acted with integrity and with a great desire

to keep within the restrictions laid by the Constitution upon their action, have adjudged that it is so. They are a co-ordinate department of the Government, with the judiciary, invested with very high and responsible duties as to some of which their acts are not subject to judicial scrutiny and they legislate under the solemnity of an official oath which it is not to be supposed they will disregard. It must, therefore, be supposed that their own doubts of the constitutionality of their action have been deliberately solved in its favor so that the courts may, with some confidence, repose upon their conclusion as one based upon their best judgment."

It thus appears that the reason of the rule is that since it is the duty of the Legislature before enacting a law to consider carefully the question of constitutionality and become satisfied beyond reasonable doubt that the proposed law is constitutional, it must be presumed that they performed that duty and adjudged the law to be constitutional, and that a due respect for that judgment requires the judiciary to refrain from passing a contrary judgment until they are, in like manner, satisfied beyond reasonable doubt that the law is unconstitutional.

That such is the reason of the rule has been uniformly laid down and has never been questioned. In the early case of *Ogden vs. Sanders* (12 Wheat. 270), the Court, per Washington, J., says:

"It is but a decent respect due to the wisdom, the integrity, and the patriotism of the legislative body by which any law is passed to presume in favor of its validity until its violation of the constitution is proved beyond all reasonable doubt. This has always been the language of this court when that subject has called for its decision."



The principle thus uniformly laid down, it should be noted, is confined to legislative judgments on the question of constitutionality. As thus enunciated, it does not extend to legislative judgments upon other questions. In order, therefore, to make the principle applicable to other questions, it must appear or be presumed, not only that the Legislature passed judgment upon such other questions, but that each and every of the judgments thus passed upon such questions was a necessary part of the judgment upon the main question of constitutionality.

In this case, it does not affirmatively appear that the Legislature passed judgment upon any of the questions involved. The question, therefore, what particular legislative judgments are to be respected here, is wholly one of presumptions. What questions are we here required to presume that the Legislature adjudged? Certainly the main question that the law was constitutional; and the contention of the defendants is that this presumption as to the main question necessarily carries with it the further presumption that the Legislature, in judging the main question, adjudged also all of the questions subordinate thereto (which means all the material questions in the case) and that all such presumed further judgments are entitled to the same degree of respect as the judgment upon the main question, and can be overcome only by the same degree of proof as is required to overcome the latter. Are we required to make these two presumptions? In the first place, must we presume that the Legislature, in adjudging the main question of constitutionality adjudged all of the questions subordinate to that main question that have arisen in this case? We clearly are not unless we must presume that the Legislature in judging the question of constitutionality employed exactly the same method as we are employing in this case. Must we so presume? What method the Legislature did, in fact,

employ does not affirmatively appear. There is nothing outside the law itself that tends to show what method was employed, but there is a provision in the law which does so tend, namely the provision that limits the application of the two (2) cent rate to those roads whose gross passenger earnings equal or exceed twelve hundred dollars (\$1,200) per mile, and prescribes a higher rate for those roads whose gross passenger earnings fall below that amount.

This provision, though not directed expressly to the subject of constitutionality, is very significant in that connection, and must be given due consideration. It must be presumed that the Legislature, in making this provision, was seeking to prescribe for each of the two classes of roads, thus provided for, a rate that would be fair to the public and also both fair and constitutional as applied to the various roads; and from this it must also be presumed that the Legislature adjudged that as to all roads whose gross passenger earnings equaled or exceeded twelve hundred dollars (\$1,200) per mile, the two (2) cent rate was constitutional.

Now, in what way are we to presume the Legislature reached this conclusion? It must be in one or the other of two ways, viz., either first that the legislative judgment of constitutionality was predicated entirely on the amount of gross earnings or else, second, that the Legislature determined the question of constitutionality in the same way that it is being determined here, and having thus reached its conclusion on that question, found in some way a connection between that conclusion and gross earnings of twelve hundred dollars (\$1,200) per mile of such character that it adopted such gross earnings as the test by which to determine the applicability of the rate to any particular road.

As to the first of these alternative presumptions—it is

clear that it cannot be made. Such a presumption would imply that the Legislature found that there was such a necessary relationship between gross earnings on the one hand and net earnings and value of property employed on the other hand that the rate of return upon the value of property employed could be determined from gross earnings alone without determining the net earnings or value of property employed. As such a presumption would be absurd, it is the alternative presumption if any that must be adopted. Can we make this alternative presumption, viz., that the Legislature employed the method which is being employed here? In order to make such presumption, we must assume that the Legislature performed a colossal task; we must assume that preliminarily to the enactment of this law, the Legislature determined the value of the property of every railroad in the State and also its gross and net earnings and the rate of return upon property value to which each was entitled; and that, having determined all these things it further determined with reference to every road what portion of its property was employed in its passenger service and its gross and net passenger earnings; and from the presumption that it determined all these things we should have to presume further that the Legislature adjudged all the questions that would be involved in making those determinations which would, of course, be all the questions involved in this case.

Now, does a due respect for the presumed legislative judgement of constitutionality require the judiciary to make a presumption that is so manifestly impossible? I think not. And if it does not, then we cannot presume that the Legislature employed this method of determining the question of constitutionality, and therefore cannot presume that it adjudged the questions arising in this case which are subordinate to the question of constitu-

tionality; and therefore need not require proof beyond a reasonable doubt upon those questions on the ground that they have been adjudged by the Legislature. The only legislative judgment, therefore, that is to be presumed here, and out of respect to which proof beyond reasonable doubt is required, is the judgment on the main question that the law was constitutional.

This, however, is not entirely decisive of the question under immediate consideration. It does not follow therefrom that none of the subordinate questions are required to be proven beyond reasonable doubt. The defendants do not admit that their contention involves the necessity of presuming a legislative judgment upon the subordinate questions, but claim that regardless of whether such judgment is or is not to be presumed, the presumption of constitutionality applicable to the main question in and of itself casts upon the complainants the burden of proving beyond reasonable doubt the conclusion sought to be drawn by them upon each and every of the subordinate questions involved. In support of this contention, they argue that since a chain is no stronger than its weakest link, in order to conclude beyond reasonable doubt that the law is unconstitutional, every link in the chain of reasoning by which that conclusion is reached must itself be established beyond reasonable doubt and therefore that the conclusion claimed by complainants upon every question involved must be so established.

This argument is plausible, but it involves unwarranted assumptions. It involves the assumption that the conclusion which is drawn on the question of constitutionality is necessarily the last link in a chain of reasoning in which the conclusion on every material question involved in this case is a necessary link. Such assumption is unwarranted because the final conclusion on the question of constitutionality is not necessarily reached

by means of such a supposed logical chain nor is it invariably necessary in reaching such final conclusion to draw any particular conclusion on any one of the subordinate questions involved.

The final conclusion on the question of constitutionality is not necessarily or usually the last link in such a supposed chain of reasoning, but is, instead, the summing up of, and the striking of a balance between, two conflicting classes of reasons, viz., those which tend to show the constitutionality of the law and those which tend to show its unconstitutionality—those reasons consisting of the applicable rules of law and the facts and conditions proven to the court or cognizable by the court without proof and also the conclusion drawn upon the various subordinate questions involved. Of those minor conclusions some may and some may not be of such vital importance in the decision of the applicable rules of law and the facts and conditions proven to the court or cognizable by the court without proof and also the conclusion drawn upon the various subordinate questions involved. Of those minor conclusions some may and some may not be of such vital importance in the decision of the main question that in order to reach the main conclusion beyond reasonable doubt it is necessary that the minor conclusion also be established beyond reasonable doubt, but seldom, if ever, would all or many of the minor conclusions require to be so established; and whether any of them would, in any particular case, require to be so proven, and if so, what ones are questions to be decided in every instance by the tribunal whose duty it is to weigh all the evidence and draw the final conclusion upon the question of constitutionality as the same is presented in that particular case. And that tribunal in drawing such conclusion is not, in my judgment, required by any rule of law or logic to refuse to consider and give weight to

any conclusion that is supported only by a preponderance of evidence, upon the ground that it has not been established beyond reasonable doubt. The fact that such conclusion is not established beyond reasonable doubt, but is supported only by a preponderance of evidence is something that must be considered and it may be of such vital importance to the main issue as to forbid a conclusion on that issue that would be otherwise drawn; but whether it is or is not of such importance is for the court to decide, unfettered by any hard and fast rule on the subject. That this is true as regards the multitude of subordinate questions involved in the case is quite evident and that it is in a measure true as regards even the three main questions appears from a moment's consideration of conditions that might occur. Thus, if the value of the property were proven only by a preponderance of evidence and the expected return were proven beyond a reasonable doubt to be such as would not pay a fair return on more than one-half the amount which it appears from a preponderance of evidence the property was fairly worth would it not be clearly competent for the court to consider the general effect of all the evidence and to conclude that the evidence on the whole showed beyond reasonable doubt that the rate in question would not yield a fair return on the value of the property? According to the defendant's contention, it would not. Their contention is that the rule here invoked by them is a hard and fast rule of law which forbids the court from adjudging this law unconstitutional unless and until the complainants' contention on every question involved in the case has been established beyond reasonable doubt. This contention is based, it seems to me, on a fundamental misconception of the nature of the rule of reasonable doubt on constitutional questions. In my judgment, there neither is nor can be any such rule of law on the subject.



A rule of law binding on the courts must have a legal sanction either in legislative enactment or in established usage. The rule in question neither has nor can have either of these sanctions. It cannot derive a sanction from established usage because it originates with the courts and is grounded not upon usage but upon a judicial sanction that has and can have no reference to usage, and it cannot derive a sanction from legislative enactment for the same reason, viz., that it is a creature of the courts existing without and independent of any authority derived from legislative enactment.

It derives its sanction from the power of the judiciary to nullify legislation on constitutional grounds—a power that is derived by the judiciary directly from the constitution and which therefore is and must be wholly independent of legislative control. If its exercise could be controlled by legislative enactments requiring the judiciary to exact certain proofs or certain degrees of proof before declaring any legislative act unconstitutional it could be practically nullified or destroyed by legislative action, whereas it is a power which by its very nature is and must be beyond the reach of legislative authority. This power thus derived from the constitution necessarily includes the power to make regulations as to the means and methods of its exercise, and it is in the exercise of the power to make such regulations that the rule of reasonable doubt has been prescribed. It is, then, a rule of procedure or adjective law as distinguished from a rule of substantive law, and as such is, like other rules of procedure, within the control of the courts, and not a rule the enforcement of which a litigant may demand as a matter of right. It is not a rule of private right but of public policy—a rule of inter-departmental comity. Its enforcement by the courts is a duty which

the judiciary owes not to any private party asserting rights under the law in question, but to a co-ordinate branch of the government of which the judiciary is a part—the branch that enacted the law. It is a reciprocal duty reciprocating with a duty which the Legislature owes to the judiciary. It is the duty of the Legislature on the one hand to enact laws that are constitutional and to refrain from enacting those that are unconstitutional, i. e. to refrain from calling on the judiciary to administer and enforce unconstitutional laws, and it is the duty of the judiciary on the other hand to enforce all laws that are constitutional and to refrain from enforcing those that are unconstitutional and the latter duty is no less imperative than the former. As all laws are mandates to the courts the Legislature when it enacts an unconstitutional law thereby not only itself violates the constitution but also calls upon the courts to do likewise. The enforcement of an unconstitutional law would be in itself a violation of the constitution by the judiciary at the behest of the Legislature. This the judiciary will not do; but before refusing to do so it will exercise special care in determining whether the law is or is not unconstitutional. What degree of care it will so exercise is wholly a question of the respect due from the judiciary to the judgment presumed to have been pronounced by the Legislature that the law was constitutional; that is to say it is a question of public policy relating to the proper maintenance of the balance of governmental functions designed to be secured by the tripartate partition of powers established by the constitution, and not at all a question of private right between the parties. As a measure of conservatism and a method of exercising special care in determining the question of constitutionality the judiciary has imposed upon itself the restraint of this rule of reasonable doubt. Now the adoption of this rule clearly confers on

litigants no rights that they would not otherwise have had. It affords a litigant no standing from which to demand an enforcement of the rule as matter of private right for him. Its enforcement may benefit him but if so such benefit is merely incidental to the public benefit which constitutes the purpose of the rule, he may argue as vehemently as he wishes for the enforcement of the rule, but his arguments can have weight only as they are based upon considerations of benefit to the public and not of benefit to him.

From the foregoing conclusions, it seems to me very clear that there neither is nor can be any rule of law by which the courts are bound to require proof beyond a reasonable doubt upon all or any of the subordinate questions arising in this case.

But it does not follow from this that such proof will not be required—does not follow that the rule of reasonable doubt will not be applied to any subordinate questions—it merely results that subordinate questions may or may not require to be proven beyond reasonable doubt and it leaves the question open whether any and if so what subordinate questions require to be so proven. And as this open question can be determined only in the final summing up on the main question it results in leaving the complaining party at his peril to prove beyond reasonable doubt all such subordinate questions as are liable to require to be so proven in order to establish his contention on the main question of constitutionality beyond reasonable doubt.

And when all the proofs both pro and con have been made it devolves upon the Master to deal with this open question as to the applications of this rule of reasonable doubt to subordinate questions. What is his duty with regard to that question and how is it to be performed? It is his duty to determine whether the fact of unconstitu-

tionality has been established beyond reasonable doubt, and in the performance of this duty he is required to make specific findings upon all the questions involved, and in doing so, he must apply the rule of reasonable doubt not only to the main question but also to all such subordinate questions as must be established beyond reasonable doubt in order to so establish the main question. But as he cannot know in advance of his final summing up what ones of the subordinate questions will require to be so proven, how is he, in making his specific findings on subordinate questions to determine whether his finding upon that question must be established beyond reasonable doubt or only requires to be established by preponderance of evidence and therefore whether the rule of reasonable doubt is to be applied to that question? The answer to this question, I conceive to be this, that inasmuch as some of the subordinate questions will probably require to be established beyond reasonable doubt, and all of them may possibly so require, and as his findings are subject to review, it is the duty of the Master in making his specific findings to supply the rule of reasonable doubt to all material questions and if in any instance his finding is based not on proof beyond reasonable doubt but on a preponderance of evidence merely it is his duty to so state. This will properly preserve the rights of both parties, as it will give to the defendants the full benefit of the presumption of constitutionality and to the complainants the full benefit of their proofs and at the same time it will apprise the court specifically of all the steps by which the Master's final conclusion has been reached. Such is the course that will be followed by me in determining the main question whether the unconstitutionality of the prescribed rate has been established beyond reasonable doubt, and it will therefore be understood that, except where it is otherwise expressly stated, all the con-

clusions arrived at herein have been found by me to have been established beyond reasonable doubt.

I have discussed the subject of this presumption thus at length because the defendants insist strenuously that it applies to every one of the multitude of questions arising in the case and in numerous instances, claim from it most important results, even such results as would, in some instances, be decisive of the case, and in others would prevent freedom of inquiry and judgment. Thus, for example, on the question of net earnings to be anticipated under the 2¢ rate, they claim that we must presume that the Legislature adjudged that the decrease in rate would produce an increase in volume of traffic so great that there would be no decrease in net earnings resulting from the decrease in rate and that that judgment must be presumed to be correct unless the complainants prove by affirmative evidence and beyond a reasonable doubt that such resulting increase in volume of traffic would not be great enough to have that effect. As such affirmative proof is impossible, and as the statute could, by no possibility be confiscatory if it caused no decrease in net earnings, the presumption of constitutionality thus applied would be decisive of the case.

Again, on the subject of valuation, the defendants claim that where estimates of value disagree, this presumption requires that we must always accept that lowest one because the fact that somebody so estimates the value creates a doubt of the correctness of every other estimate and as every doubt must be resolved in favor of the statute, the lowest estimate must be accepted as the true value—a doctrine which would preclude freedom of judgment.

To the foregoing findings with reference to the burden of proof defendants' objection No. 2 is addressed. The objection is that I have committed error

“upon the question of the degree or positiveness of proof required, of those contesting a statutory rate of fare, to establish the invalidity of such rate, and in not finding that it is essential that every material question and conclusion, upon which the invalidity of a statutory rate is predicated, be established beyond controversy and beyond the possibility of a reasonable doubt, as well as in numerous instances throughout the report failing to apply the rule that every question throughout the controversy of sufficient materiality and importance, taken separately or cumulatively, as to affect the result, must be resolved in favor of the validity of the rate-fixing statute.”

It is further stated that the applicable principle has been enunciated in many cases.

“It is that every presumption is to be resolved in favor of the validity of legislative enactments; and rate-fixing statutes form no exception. The effect of this salutary rule has never been permitted to be frittered away by nice distinctions or refinements of reasoning, as is here attempted.

No discretion is vested in the courts in determining whether the Legislature, as a co-ordinate branch of the Government, has exceeded its authority. When positive proof of the exercise of excess authority is produced, then, and then only, can the courts perform their duty of declaring statutes to be unconstitutional. Before that duty arises, or will be performed, it must appear beyond possibility of reasonable doubt that the statute is unconstitutional, and, in order that it may so appear, it must also appear that *every link in the chain of evidence* to show such invalidity is established beyond doubt. Such invalidity is not permitted to rest upon equivoca-



tion or opinion, and where there is doubt on any question or element, that doubt must be resolved to sustain the legislative action. We feel that in a number of instances throughout the case the doubt has not been resolved by the Master in favor of the validity of the statute, but has been resolved in favor of the complainant. A few of the particulars which may be pointed out are the following:

In allowances for the items "Contingencies," "Taxes," "Appreciation," "Working Capital" and "Stores and Supplies."

In refusing to depreciate ballast and track laying and surfacing.

In acceptance of complainant's alterations of defendants' modified revenue train-mile ratio for division of common property and common expenses.

In the determination that decreased rates will not, and did not subsequent to 1907, produce increased traffic."

The presumption referred to in this objection has been quite fully discussed by me in connection with the findings to which the objection relates, but it has been so strongly urged at all points by defendants, and so implicitly relied upon in many instances as an insuperable defense to the complainant's case, that some further discussion of it here may be desirable. At a great many points in the case, the presumption has been brought forward in a way which, if sustained, would end the case at once.

In considering this objection, the first thing to be noted is that it misapprehends my findings both as regards the principle of law applicable to this subject, and also as

regards my application of that principle in determining questions of fact.

With regard to my findings as to the principle of law involved, the fact is that I have fully adopted the doctrine contended for by the defendants, except that I do not adopt their extreme claim that all material facts must be proved beyond the possibility of a doubt.

As regards the principle of law here involved, therefore, the only question to which this objection can apply is whether the defendants are right in this extreme contention. Upon this question I see no reason for changing the views already expressed. I can find no authority in precedent or foundation in reason for this extreme doctrine. I am unable to find in the numerous cases cited by defendants in this connection any support for such doctrine or any intention to give any other or greater effect to the presumption in question than is given to it by me in my findings. And I am equally unable to find any foundation in reason for such doctrine. To my mind it would be irrational for any court of justice, and especially for a court of equity, to adopt and apply a rule that it would refuse relief unless the facts calling for relief were proven beyond the possibility of a doubt, and still more especially where those facts were in their very nature non-susceptible of such proof. In fact, the application of such a principle or rule to human affairs is inconceivable. Outside the domain of mathematics, there is no such thing as proof beyond the possibility of a doubt. A rule to suspend action until all possibility of doubt regarding it and its effects had been removed, would arrest and paralyze every form of human activity.

Disallowing, therefore, this objection, insofar as it reasserts this extreme doctrine, I pass to the consideration of that part of the objection which relates to my applica-

tion of the principle of reasonable doubt as adopted by me.

The assertion involved in this part of the objection, that in reaching my conclusions I have, in numerous instances, resolved doubts in favor of complainant and against the defendants, is a mistake. In reaching my conclusion, I invariably resolved my doubts in favor of the defendants, and reached no conclusion until I was satisfied, beyond a reasonable doubt, that the conclusion was correct. The mistake thus involved in this objection arises, as it seems to me, from two distinct misconceptions of the nature of that which is designated by the word "doubt" in the phrase "reasonable doubt", either of which misconceptions would render the presumption in favor of the validity of legislative action an indisputable presumption in fact, although the defendants recognize it in theory as a disputable presumption.

The first of these misconceptions is in conceiving a reasonable doubt to be something which exists extraneously to, and independently of, any individual mind, and which, like a problem in mathematics, has one and only one correct solution for all minds, whereas the fact is that that which is there designated by the word "doubt" is an individual state of mind—a state of mind in which the individual having the doubt is hesitating to accept a certain conclusion because he is not entirely certain of the existence of all the facts or the soundness of all the inferences required in order to justify the conclusion contemplated. It is to this state of mind that the rule in question applies when the proposed conclusion is in favor of complainant, and it there requires that the proposed conclusion be not accepted until all such uncertainty is removed, even though the preponderance of evidence is in favor of the conclusion. Resolving all doubts in favor of the defendants means refusing to accept such con-

elusion so long as there remains any reasonable doubt of its correctness—that is to say, any doubt having a good foundation in reason.

Now, whether such doubt exists, and if so, against what evidence to the contrary it will continue to exist, is of necessity a question to be decided by the particular individual mind which is asked to draw the conclusion.

In deciding the question, it is of necessity his doubts, and not the doubts of somebody else, that he is to resolve in favor of the defendants, and it is of necessity he alone that can say how his doubts have been resolved. If he accepts the conclusion that fact gives no ground for saying that he has violated the rule and resolved his doubts in favor of the complainant. Nevertheless, the defendants here assert that in numerous instances I resolved my doubts in favor of the complainant with no other apparent foundation for the assertion than the fact that I accepted a certain conclusion. In doing so, they make the mistake of failing to recognize the individual character of doubt and of assuming that wherever a person reaches a conclusion different from that contended for by them, he has thereby necessarily resolved his doubts in favor of the complainant. And in doing so, they necessarily take the position that no conclusion different from that contended for by them can be reached in this case without violating the rule requiring all reasonable doubt to be resolved in their favor.

This is why I have said that their misconception of the nature of doubt, as that word is here used, is one of two misconceptions, either of which would render the presumption in favor of the validity of legislative action an indisputable presumption.

The other misconception as to the nature of reasonable doubt, as those words are used in a rate case, is that they conceive of doubt as being practically synonymous with

uncertainty; that wherever there is uncertainty of any kind or degree, there is also reasonable doubt, and that therefore, so long as there is any uncertainty, there can be no conclusion in favor of the complainant. Now, as the principal questions in a rate case always involve certain kinds and degrees of uncertainty, which cannot be eliminated, this conception of the nature of a reasonable doubt, it will be seen at once would, like the other, render the presumption indisputable.

That the defendants' position is that the presumption is in fact indisputable is further shown in their treatment of the principle adopted by me for weighing the presumption against opposing evidence. In this regard, I expected, and assumed, that they would recognize the necessity of adopting some principle for this purpose, and either accept the principle applied by me, or else point out its defects and state what they conceive to be the true principle. But they do neither, nor do they refer in any way to the principle applied by me, except by necessary inference to characterize it as involving equivocation, and as an attempt to fritter away the salutary effects of the presumption by nice distinctions or refinements of reasoning. No other conclusion can be drawn from their comments in this connection than that the defendants consider that there is, and can be, no such thing as weighing the effect of the presumption against opposing evidence and that any attempt to do so is anathema and a failure of due respect for the sanctity of the presumption.

That the defendants' position on this subject is that the presumption is in fact indisputable is again shown in the part of the objection not yet discussed which relates to the practical application of the presumption to the questions arising in the case.

This part of the objection is that the defendants "feel



that in a number of instances throughout the case, the doubt has not been resolved by the Master in favor of the validity of the Statute, but has been resolved in favor of the complainant." It then mentions nine subjects which it says are a few of such instances. It does not, however, offer or indicate any reason for saying that upon those subjects the doubt has not been resolved in favor of defendants, but obviously bases its assertion wholly on the fact that the conclusion was in favor of complainant, from which it is evident that the defendants' position is that such conclusion could not be reached at all without resolving the doubt in favor of complainant and violating the rule in question. In this they assume that the conclusion is required to be one of entire certainty as to the uncertain element, which it is not. The conclusion is not and cannot be required to be one of such accuracy as will eliminate all uncertainty. The precise nature of the conclusion will be best exhibited by examining it as arrived at in concrete instances. Such instances are found in connection with each of the nine subjects specified, and I will now proceed to consider these subjects in the order of their mention under the objection.

*Presumption as Applied to Contingencies.*

This subject is evidently regarded in the objection as having the greatest degree of uncertainty as contingencies are by their very nature uncertain. A contingency is an event the happening of which is uncertain—it may or may not happen—and if the conclusion required to be drawn here was to the effect that any particular contingent event would be certain to happen or not to happen, the conclusion could not, in the nature of things, be reached without violating the rule in question. But such is not the conclusion. In order to apprehend the



precise nature of the conclusion, it is necessary to bear in mind what it is exactly that we are here seeking to do. We are seeking to determine the value of the complainant's property. And to this end we are seeking to ascertain what it would cost to reproduce or duplicate it. This cost can by no possibility be determined with accuracy. The most that can be done in that regard is to make a fair estimate of what the cost may be expected to be, based upon knowledge and experience. Such estimates the two engineers have made. And in making them, they estimated separately, item by item, all the foreseeable costs, and stated that in addition to these foreseeable costs there were many that could not be foreseen and estimated item by item, and these costs they grouped under one head as contingent costs or contingencies.

Now, the testimony shows indisputably that according to all experience in such matters, such contingent costs are certain to be incurred in some amount, but in what amount precisely is very uncertain. It appears from a clear preponderance of evidence, that the amount to be fairly anticipated for contingent costs in a reproduction of complainant's property would be from 10 to 15 per cent of the other property schedules except lands, and that this is the amount that would be added for contingencies by any competent engineer in furnishing estimates of probable cost for the guidance of investors, and it is the amount which should be added here, were it not for the presumption in question. But it is very uncertain what would be the actual amount of contingent costs and doubtful whether they would be as much as 10% or 15% of the schedules mentioned. In consequence of this doubt, the allowance which I have made is not the amount that would ordinarily be expected for contingent costs, but the minimum amount that can reasonably be expected

—the amount below which the contingent costs cannot, in reason, be expected to fall.

The conclusion thus reached by me is not that \$400,000 is the amount that would actually be required to pay the contingent costs, or that it is an amount that would, according to the testimony, be sufficient to cover all of the contingent costs, but that it is a fair and reasonable estimate of the minimum amount below which the contingent costs cannot be expected to fall, and which must, therefore, be regarded as certain to be incurred beyond all reasonable doubt.

The conclusion, therefore, reached upon this subject is one that does not involve resolving the doubt in favor of complainant, but is reached after resolving all reasonable doubts in favor of defendants.

It will be noted that the defendants' specific objection to this item of contingencies is not as to the amount of the item, or that under the evidence it is too large, but that no allowance of any amount can be made on account of contingencies—which, of course, would render the presumption indisputable as far as this item is concerned.

*Presumption as Applied to the Other  
Subjects Mentioned.*

What is said here of contingencies in this connection is applicable also to the second, third, fourth and fifth subjects mentioned, viz: Taxes, Appreciation, Working Capital, and Stores and Supplies. In valuing each of these items, I resolved all my doubts in favor of the defendants.

The next two subjects, viz: Ballast, and Track Laying and Surfacing, call for specific comment. The defendants' contention here is that I resolved the doubt in favor

of complainant in refusing to depreciate either of these items.

Here we encounter the curious contention that the enactment of this statute by the Michigan Legislature raises a presumption that ballast depreciates.

Of course the question whether ballast does or does not, in fact, depreciate, can no more be affected by an act of the Michigan Legislature than it can by the Apostles' Creed. Such a proposition would be on its face highly absurd, and it can be saved from such absurdity only by the theory and assumption that in enacting the statute, the Legislature adjudged this question and found that ballast does depreciate precisely as claimed by the defendants' witness, Mr. Hansel, or by some other theory that would thus connect the question of ballast depreciation with the action of the legislature.

But this theory the defendants do not accept. On the contrary, they visit upon it severe condemnation as an attempt by equivocation to fritter away the salutary effect of this presumption, and at the same time they offer no substitute. Unless and until the defendants bring forward some principle by virtue of which the enactment of this statute is made to have a bearing on the question of ballast depreciation. I am at a loss to see how they can claim that the enactment of this statute by the legislature has any bearing whatever on the question whether ballast does or does not depreciate, and therefore how it can be said that in refusing to depreciate ballast, I failed to give due effect to the presumption. And this would be so even if I had in fact refused to depreciate ballast.

But the fact is that I did not refuse to hold that ballast depreciates, but on the contrary held that it does depreciate precisely as claimed by defendants and as testified to by Mr. Hansel. What I refused to do was, first,

to include in the inventory any ballast that had been thus depreciated, i. e., by being blown away and by sinking into the embankment; and second, to place a depreciated value on ballast that had not suffered that kind of so-called depreciation; and third, I refused to find and allow an amount for depreciation from disintegration when there was not and could not, in the nature of things, be any evidence on which to base such a finding.

What I have said here regarding ballast is applicable also to the seventh and eighth subjects mentioned, viz: (7) my refusal to depreciate track laying and surfacing, and (8) my adoption of complainant's modified train mileage ratio for the division of common property and common expenses.

The ninth specification is that I resolved the doubt in favor of complainant in two ways: first, by finding that reduced rates will not produce increased traffic, and second, by finding that reduced rates did not, subsequent to 1907, produce increased traffic. With reference to the first, it is not a fact that I so found; on the contrary, I found that reduced rates will, in all probability, produce increased traffic. And as regards the second, the fact in that regard is a matter of record on the existence of which the presumption in question can have no bearing whatever.

In these instances, also, it seems to me that the defendants in reality recognize no possibility of overcoming the presumption by proof although they do so in theory.

This peculiar position of the defendants is regrettable. If the presumption is indisputable in fact, it ends this case as effectually as though it were so in theory also. But I can see no possibility of question that it is my duty to treat it as disputable, and therefore to the best of my ability to weigh it against the opposing evidence offered. In the performance of this difficult and delicate

task, I need and desire all the assistance possible from counsel on each side. But I am offered no principle for guidance, and as regards the principle which I have adopted, I am merely told that it is an attempt to fritter away the salutary effect of the presumption.

That it was not such an attempt, but an earnest effort to find a means of rationally weighing the presumption against opposing evidence, it is unnecessary to say, but it is important to point out that the adoption of such principle, or one that will accomplish the same result, instead of being an attempt to fritter away the salutary effect of the presumption, is the *means* and the only means by which the presumption can be given any rational effect whatever. That this is so appears clearly from what has been said above on the subject of the presumption as applied to the question of ballast depreciation.

How would it be possible within reason to say that the enactment of this statute created a presumption upon any one of the many questions of fact to which defendants apply it, except upon the principle that we must presume that the legislature actually adjudged the question and adjudged it correctly?

For example, how would it be possible to say that the enactment of this statute created a presumption that the defendants' modified train mile ratio is correct, or that their claimed value of the Marquette Station property is correct, except upon the theory that the legislature passed upon those questions and came to the conclusion contended for by defendants? In the absence of such theory, how does the enactment of this statute have any more bearing on those questions than would the enactment of a law changing the rate of interest or the regulations as to the granting of marriage licenses?

I have discussed this presumption thus fully because it

bulks so large in the defense to this case, and because we must follow one or the other of two courses—we must either find and adopt some method of measuring or weighing the strength of this presumption against opposing evidence, or else frankly recognize the presumption as absolute and indisputable, instead of saying that it is disputable, and then denying that there is any possibility of measuring it, or any propriety in trying to do so.

Before taking leave of this subject, it is desirable to call attention to another presumption regarding legislative action which, although referred to by defendants, has not been given due recognition and effect in this case. The defendants at one point contend, and rightly, that we are bound to presume that the legislature, in enacting this law, acted conscientiously and intended to observe all constitutional requirements, as was their duty; that they intended to enact a constitutional law, and did not intend to enact an unconstitutional law; and as it is well settled that in order to be constitutional, a rate law must be such as will yield a fair return upon the property employed, the legislature did not intend to enact a law that would not yield such return. Now if, on such careful investigation as has been made in this case, it is found that the prescribed rate will not yield such return, are we to presume that it is, nevertheless, the will of the legislature that this law be enforced against this railroad, or are we to presume the contrary? Are we not to presume that the will of the legislature in enacting this law was that it be enforced against all railroads in the state unless and until it is found on judicial investigation that it will not fulfill constitutional requirements in the case or any particular road, and that when so found, it be not enforced? The point here sought to be made is, not that there is any necessity for finding that such is the legislative will, but that an injunction



against such enforcement is not necessarily or presumably a nullification or overriding of the legislative will, but is presumably in accordance with that will.

---

Having thus determined the evidential requirements which must be met by the complainant, we proceed to consider whether those requirements have been met. Have the complainants proved beyond a reasonable doubt that the prescribed rate will not yield the required return on the value of the property employed? This question resolves itself into three subordinate questions, viz:

1. What is the value of the property employed?
2. What return may reasonably be expected under the prescribed rate? and
3. Will that return constitute a fair return upon the value of the property employed?

These three subordinate questions will be considered in the above order.

### *The Value of the Property Employed.*

In proceeding to make the valuation here required we encounter at the outset a peculiar difficulty. We find that the required valuation must be made on a basis that involves an exact reversal of the order of economic reasoning usually employed in making valuations. In the order of economic reasoning usually and almost universally employed in making valuations the value of a thing is determined upon the basis of the profitableness of its most profitable use; but in the valuation to be made here the value sought is not a value that is determined on the basis of the profitableness of the most profitable use

to which the property can be put, but is, on the contrary, a value that is itself to constitute the basis on which the profitableness of that most profitable use is to be determined. The value sought must be of a kind that will properly constitute such a basis.

What is that kind of value? What kind of value is there that is capable of performing this unusual and one might say, abnormal function of determining the profitableness of the most profitable use? This question must be clearly and satisfactorily determined at the outset, as otherwise all subsequent discussion will be liable to constantly recurring confusion of thought resulting from uncertainty as to the meaning of the word value as here used. The necessity for determining this question clearly in advance, and the difficulty of doing so are strikingly shown in the numerous differing views that have been put forth as to what precisely is meant by "value" in rate cases, some of which go so far as to say that there is, in reality no such thing as value in rate cases; and that the rights of the respective parties must be determined by other considerations. Thus Professor H. C. Adams, testifying in this case says, "In my judgment this thing that we call 'value' in practical questions is a thing to be gotten at in order to arrive at equitable conclusions between contending parties, and it is always necessary to know what the contention is and what the relative rights of the parties are in order to proceed in any analysis or definition of values."

And Professor E. W. Bemis in a Gas Case at St. Paul in May, 1914, said in effect that in rate cases there is in reality no such thing as value, but that "fair value" or "amount of property" or "fairness" is meant.

The complainant's counsel did not undertake to specify the particular kind of value, or principle of valuation that should be uniformly applied to all the railway prop-

erty in this case, but left the question open. But the defendants' counsel did so specify and stated on pages 189 to 192 of his printed brief as follows:

"The value of the property determines the amount of return to which the company is entitled. One of the principal problems of the case is to find that value. That value is not the original cost, the investment, the value of the stocks and bonds, the book or cost value, the cost of reproduction new, or that cost of reproduction affected by depreciation. There is no definite rule for determining precisely what that value is but it is safe to say that it is such a sum as in the judgment of the Court, considering the property, its history, and all surrounding conditions and elements, the company is entitled to a return upon, and the public is required to support."

"The high point of property value which can be used as the basis for figuring the return in a case contesting rates, is the commercial value—the value which is predicated upon the ability of the road to earn under normal and competitive conditions with rates unregulated. A cost of reproduction or present physical value of the property may bring the basis for fixing rates below the sale or commercial value of the property, but a high cost of reproduction cannot be permitted to carry or fix the amount on which the utility shall be entitled to a return, above the commercial or sale value."

"The reason is obvious. The utility is entitled to a return upon the value of the property, not upon its cost, and value is not fixed by cost, by present physical condition or by the amount or value of stocks or bonds, but is fixed by the intrinsic commercial or sale value."

These differing views of the subject are typical of what is very generally found in the discussions of value in rate cases in consequence of which one often seems to be traveling in a circle and arriving nowhere in particular; and they emphasize the necessity for a clear determination of the kind of value that is to be sought and arrived at as preliminary to the work of valuation.

I am unable to see how any proper valuation for rate making purposes can be made without selecting and applying a kind of value or principle of valuation that will furnish a proper basis of rates, and that will be applicable to all the property. The complainant recognizes this necessity and accepts therefor the principle of valuation hereinafter set forth.

The position taken by defendants' counsel tacitly recognizes the need of such a principle of valuation and undertakes to supply it, but the principle which he offers. I am unable to understand clearly. He says:

"The value of the property determines the amount of the return to which the company is entitled"; and "that value is such a sum as the company is entitled to a return upon."

The difficulty about understanding this is that it seems to me the same as saying that the value determines the amount on which the company is entitled to a return, and the amount on which the company is entitled to a return determines the value, which is so plainly reasoning in a circle that I feel that counsel must mean something that I do not catch. And this same peculiarity, I think, is found in all attempts to use the conception denoted by the phrase "commercial value" as a basis of rates.

With these remarks upon the difficulties of the problem, we now return to our question, what kind of value is it that furnishes the proper basis for rate-making.

Value may be defined as the desirability or worth of a thing as measured by the desirability of something else. The commercial value of a thing is its desirability measured by the desirability of money; and since money, as the medium of exchange, is the measure of the desirability of all things, the commercial value of a thing is its desirability as measured by the value of all things.

The word "value" is thus a term expressive of relationship. It expresses the relationship existing between the thing valued as regards desirability and some person or class of persons. Hence, everything of value has as many different values as there are persons to whom it bears differing degrees of desirability.

Again, the commercial value of a thing is always based upon the profitableness of some use to which the thing can be applied. Hence, everything has as many different values as there are different degrees of profitableness in the uses to which it can be applied.

From these premises, it follows that the kind of value which we are seeking as a basis of rates, must be a value based on some particular use, and it must be a value to some person or class of persons.

On the basis of what use and to what person or persons is the estimate of the value of a railway property to be made? In the Minnesota rate decision, certain values were rejected because they were based on railway use and were therefore dependent on rates; but it is obvious that that must not be taken to mean that all values based on railroad use are to be excluded; on the contrary; it is perfectly clear that for rate-making purposes, all values of railway property must be railway values, i. e., values based on railway use. A valuation of railway property for some other than railway use would be absurd on its face as a basis for railway rates. We must, therefore, proceed on the assumption that the value which is to

serve as a basis of rates is a value for railway use—adding, however, that although a value for railway use, it must not be a value that depends upon rates. What value is there for railway use that does not depend upon rates?

I have said that every value must be a value to some person. Now, every object of value to a person has for that person three distinct values, viz., a use value, a sale value, and a replacement cost value. These three values, I say, are entirely distinct; and they may vary widely. A thing may be of much more value to its owner to use than to sell, and vice versa; and the replacement cost, i. e., the amount that it would cost to replace or duplicate the thing may be greater or it may be less than either of the others. Now, both the use value and the sale value of a railway property depend upon rates, and for this reason neither can be made the basis of rates. But the replacement cost value does not depend upon rates. The amount which it would cost a railway company to replace any portion of its property would be the same whether the rates which it was permitted to charge were high or low.

Hence, if the foregoing reasoning is correct, replacement cost value is the value that fulfills the two requirements above mentioned, viz., that it be for railway use, and that it be independent of rates. And as it is the only value that fulfills those requirements, and as those requirements are absolute, it is the only kind of value that is available for the purpose of a rate case.

In this case, it is recognized as such and adopted by the complainant's counsel, but the defendants' counsel claims that the kind of value to be employed here is not replacement cost value, but commercial value.

Now, the commercial value of a property is the amount for which it can be sold, either in bulk or in parcels, and



the value that is contemplated here by defendants' counsel is that which would be realizable from a sale in bulk-- i. e., a sale of the entire property as an organized and operating railroad property. But the amount for which the property could be thus sold would clearly depend upon the rates permitted to be charged for the service in which the property is employed. How, then, is it possible to use commercial value as a basis of rates? This difficulty is recognized by counsel and is sought to be met in the language above quoted by defining commercial value as "the value which is predicated upon the ability of the road to earn under normal and competitive conditions with rates unregulated."

The position here taken by counsel, I am unable to understand clearly as it seems to me to lead to results directly opposite to what he desires. By "rates unregulated" is evidently meant rates unregulated by statute; and it is true, of course, that the commercial value of a road with rates unrestricted by statute would not be dependent upon statutory rates as there would be no such rates; but the rates there chargeable would be restricted by the competitive conditions mentioned, and by common law requirements as to reasonableness; and the commercial value of the road would be dependent upon the rates as thus restricted; and it would be determined by the road's "ability to earn" under those competitive conditions.

Now, if the commercial value so determined is the kind of value to be employed in a rate case, what will be its effect upon rate-fixing statutes? Is it not clear that when thus judged every rate fixing statute will necessarily be found either unconstitutional or useless? If it lowers the rate that is maintained under competitive conditions, it is unconstitutional; if it does not do so, it is useless. If the competitive conditions under which the

complainant's road is operating are such that the road can maintain no higher rates than those fixed by the statute in question, the statute is useless; but if the competitive conditions are such that the road could maintain higher than statutory rates, then the commercial value of the road would be determined by the higher rates and the statute if put into effect, would not yield a fair return on that value and would, therefore, be unconstitutional.

As this result is the direct opposite of what counsel desires and as I cannot see how he reaches any other result, I infer that I have been unable to understand his contention correctly.

Furthermore, if this theory of commercial value in a rate case is correct, this case is being tried on a wrong theory, and the great amount of testimony taken on the subject of value has been taken to no purpose. That testimony does not show or even tend to show with any directness the commercial value of the property contemplated by this theory. The value which it is designed to show is that which is represented by reproduction cost new less depreciation plus appreciation. This value may, or it may not be the same in amount as the commercial value claimed by defendants, but if it is the same, such identity is purely accidental as there is no relationship existing between the two kinds of value that would cause such identity—the two kinds of value being determined by different sets of conditions. This being so, this claim of commercial value, if sustained, would either put an end to this case or require that it be tried over again on different testimony.

In fact, we may omit the above alternative and say that it would put an end to the case finally and absolutely for the reason that there could be no testimony produced for the trial of the case and the determination of value on

that theory of value. The value of the property based on its earning power under normal competitive conditions with rates unrestricted by statutory regulation could be estimated only where there had been experience under such conditions which would furnish results available for such a basis of estimate, and there has been no such experience. The company has never operated with liberty to charge rates unregulated by statute and limited only by the danger of discouraging business or driving it to competitors. It knows nothing of what could be done under such conditions and can form no estimate whatever. The only knowledge that it has of the earning power of the road is that derived from its experience in operating under rates restricted by statute—a knowledge which, though available for estimating what may be expected from future operations under rates restricted by statute, furnishes no basis for estimating results realizable from operations under rates free from statutory restriction.

I am, therefore, unable to see how the defendants' theory of commercial value can have any possible application in this case.

In addition to the foregoing, I am also unable to see how the theory in question can be harmonized with the decided cases. The Minnesota rate case and rate cases generally have proceeded on the theory herein adopted, and have settled quite clearly that the kind of value to be determined in a rate case involving the question of confiscation is that which is represented by reproduction cost new less depreciation plus appreciation.

Now, this kind of value, although it is commercial value in a certain and proper sense (as hereinafter pointed out) is not commercial value in the sense of the defendants' theory nor has it any direct connection therewith.

When, therefore, the courts say that reproduction cost new less depreciation plus appreciation may be taken as value for the purposes of a rate case, they do not mean that that is necessarily the economic value of the property in question, but that it is a sufficiently accurate estimate of value for the purpose in hand, viz; to determine what it would cost the company to supply that particular property for public use; in other words, it is replacement cost value judicially determined.

Now in what relation does this replacement-cost value stand to commercial value? Curiously enough the answer to this question is that although in a certain sense different, these two values, in a certain other sense, are identical—that the value thus judicially determined as replacement cost value is also commercial value—not in the sense of commercial value which is the amount for which the property could be sold by the company in bulk as an organized and operative entity as claimed by defendants (that value being dependent on rates and therefore inadmissible) but in the sense of the amount for which the property could be sold in parcels, not by the company wanting to sell, and breaking up the property into parcels to be sold to various purchasers and scattered in other uses, but sold by owners of the various parcels to the company wanting to buy for the purpose of assembling and organizing the parcels into an operating instrumentality for transportation. In other words, the replacement cost value of each parcel thus determined is the commercial value of the parcel to both vendor and purchaser, i. e., it is the amount for which it could presumably be sold by the owner to the company and vice versa, the amount for which it could presumably be purchased by the company from the owner. And the total of all the values of the parcels thus determined is the total commercial value of the entire property, not as an

operating instrumentality for transportation (the value of which would depend upon rates) but as an aggregation of properties possessing potentialities for organization and railway use—a value which is not dependent upon rates and the only value that is not so dependent.

This then, is the kind of value to be employed in a rate case, and it is here called replacement cost value, because that name indicates the basis on which the value is estimated, and distinguishes it from reproduction cost value and from commercial value. In the present case it is, as already pointed out, the only kind of value that can be determined for it is the only kind shown by the evidence, there being no evidence of any value other than that which shows the amount of reproduction cost and the condition of the property as regards depreciation and appreciation.

The conclusion thus reached, the defendants' counsel does not accept. His contention is that while the replacement cost is a relevant subject of inquiry, it is only one of a number of subjects of such inquiry; that replacement cost is only one of many of the evidences of value all of which must be considered, and that therefore, when we have estimated that cost we have not determined value but must go further and consider many other evidences of value and base our valuation on all of them instead of on replacement cost alone. The position thus taken involves an idea of valuation in rate cases which has been more or less entertained in connection with the various discussions on the subject, and has, it seems to me, tended to render the work of making such valuations one of baffling, if not hopeless, uncertainty. It is an idea which should either be fully and clearly recognized and established, or else as clearly repudiated for, in its present status it is only a serious embarrassment. It is of so much importance both in this case and in all rate cases,

as to justify further discussion of it here. As stated in defendants' brief, page 189, in the language already quoted above, it is as follows:

"That value is not the original cost, the investment, the value of the stocks and bonds, the book or cost value, the cost of reproduction new, or that cost of reproduction affected by depreciation.

There is no definite rule for determining precisely what that value is, but it is safe to say that it is such a sum as, in the judgment of the court, considering the property, its history, and all surrounding conditions and elements, the company is entitled to a return upon and the public is required to support."

This I believe to be as good a statement of this idea of value as can be found anywhere, and, to my mind, it throws the whole subject of judicial valuation in rate cases into a serbonian bog of confusion and uncertainty. Examine it, and see to what it leads. It first shows what this value is not; thus "it is not the original cost of the investment, the value of the stocks and bonds, the book or cost value, the cost of reproduction new"—(all of which is perfectly true)—"or the cost of reproduction affected by depreciation" which is the exact point in question, and which, if true, would promptly put an end to this case. It would do so because the value which is shown by reproduction cost new less depreciation is, as we have already seen, the only value proven in the case, there being no evidence on which to base a finding of any other value.

Having thus told us what the value is not, the statement then proceeds to tell us what it is, as follows: "It is such a sum as, in the judgment of the Court, considering the property, its history and all surrounding conditions



and elements, the company is entitled to a return upon and the public is required to support."

This involves an inversion of cause and effect. It is, of course, true that the value of the property "is the sum that the company is entitled to a return upon", but the fact that it is so does not help us to determine value, but on the contrary, is precisely the reason why we are trying to find out what the value is—the reason for wanting to know the value being that we want to know the amount that the company is entitled to a return upon, and the only way to find this out is to find the value of the property. But, according to the statement of counsel, we are doing exactly the reverse; instead of finding the amount that the company is entitled to a return upon by finding the value, we find this amount that the company is entitled to a return upon by "considering the property, its history, and all surrounding conditions and elements" and then assuming that amount to be the value. This seems to me a clear case of putting the cart before the horse.

When the courts say that the company is entitled to a fair return upon the value of the property, I understand that we are required to ascertain the amount of that return by finding the value of the property and determining the amount required to furnish a fair return in that value; but according to the defendants' theory we are required to do exactly the reverse, viz; first ascertain the amount of return that the company is entitled to by finding its earning power under certain conditions, and then estimating its value on the basis of its earning power.

For the foregoing reasons, it seems to me that the idea of commercial value in rate cases is merely a prolific source of confusion, and should be wholly excluded from consideration.

The foregoing discussion of value applies to all values except bare land values estimated independently of improvements. And as to those values it applies so far as regards the principle of replacement cost. There, as elsewhere, it is the amount that it would cost the company to acquire the property that determines the value on which the company is entitled to a return.

How is that amount to be determined? How can we ascertain or estimate the amount that it would cost to purchase a certain parcel of land? In the case of property other than land, we are able to estimate cost by ascertaining unit prices of material and labor and from them computing the cost of reproducing the thing under valuation. But in the case of land, this of course cannot be done as a parcel of land is not the product of labor, but is *sui generis*, and cannot be duplicated. In order to be acquired, it must be purchased from the owner, and if his ownership were absolute the cost of acquisition would depend entirely upon his will, and therefore could not be estimated. But land ownership is not absolute but is subject to the power of eminent domain by means of which the owner may be compelled to sell for a price determined judicially, and this power thus performs for land values the function which the power to reproduce performs for other property values. As the willingness of the owner to sell is an incalculable element, the estimated cost of acquisition or replacement cost value of land must be the amount that it would cost to acquire the land by condemnation proceedings.

How is that amount to be determined? How shall a Court of Equity in adjudicating a rate case determine or estimate the amount that it would cost to acquire by condemnation a certain parcel of land? Shall it form its own estimate of the value of the land from proper evidence and assume that the amount so found would be the cost

of acquisition by condemnation? Or shall it undertake to estimate the amount which a jury would award in such condemnation and assume that to be the cost of acquisition?

The only authoritative answer that we have to this question is that contained in the Minnesota rate decision. In that case the trial court was asked to and did take the latter course. Testimony was introduced showing that it was customary for the jury in condemnation cases to award the owner more than the value of the land for other purposes, and that the amount of this excess value was from two to three times that of the normal value of the land; also that the company would be compelled to pay severance damages, and also certain costs for legal expenses, engineering, superintendence contingencies, interest during construction, etc., which should be included in the estimated cost of acquisition.

This seems on its face a quite natural and logical application of the general principle of determining value by cost of reproduction or replacement; there is no doubt that the actual cost of acquisition by condemnation may be and frequently (perhaps generally) is enhanced over normal land values by some or all of these considerations, but on examination it is seen that such an application of the principle of reproduction cost is entirely inadmissible. It would require the Court not only to find as a fact an improper custom on the part of juries in condemnation cases of making excessive awards but also to measure the extent of this excess generosity and accept the amount of it as the value of the property as determined by cost of acquisition. In the decision of the case by the Supreme Court this is held to be an unreasonable application of the cost of reproduction method of ascertaining present value, and is declared to involve impossible assumptions. The Court there says:

"It is impossible to assume in making a judicial finding of what it would cost to acquire the property that the company would be compelled to pay more than its fair market value. It is equipped with the governmental power of eminent domain. In view of its public purpose, it has been granted this privilege in order to prevent advantage being taken of its necessities. It would be free to stand on its legal rights and it cannot be supposed that they would be disregarded."

From this it seems clear that in estimating the cost of acquisition the Court is not to speculate upon what a jury would find in condemnation of the land, but is to form its own estimate of value from the evidence produced and to assume that the land could be acquired for that amount under the law of eminent domain. This may seem to involve a logical inconsistency in that it determines cost of acquisition by value instead of determining (as we were supposed to be doing) value by cost of acquisition, but the inconsistency is apparent rather than real; the value that here determines the cost of acquisition is that which the law prescribes shall be awarded in condemnation cases and the reason for taking it as cost of acquisition is that it is so by law prescribed; while the value that is to be taken for testing the validity of rates, although the same in amount, is taken because it represents the cost of acquisition. The distinction may seem shadowy but it is real and its substance consists in this, that the value that is to be used as a basis of rates must have a basis and its basis must be one that does not depend upon rates and the only basis that fulfills this requirement is, as already pointed out, that which is furnished by the conditions which determine the replacement cost. And this basis is equally available whether those conditions consist in legal requirements as in the case of

land values, or in present unit prices of material and labor as in the case of other property values.

The final conclusion at which I arrive therefore on the subject of value is that both as to lands and as to other property, the inquiry must be directed to the ascertainment of replacement cost, which in the case of property other than bare land is reproduction cost less depreciation plus appreciation, and that when that cost has been ascertained by proper estimate we have the valuation required for testing the validity of statutory rates.

---

To my views on the method of determining value defendants' objection No. 3 is directed. The objection is to my alleged finding and conclusion "that the cost of reproduction value less depreciation, or the 'replacement cost value', is to be taken as the absolute measure of the value which must be sustained by the rates permitted to be charged." The argument is as follows:

"Not only the leading case of *Smyth vs. Ames* (169 U. S. 546-47), but practically every rate case, to the present, recognizes that no single element or rule of valuation is to be applied in determining the value of the property which must be supported by rates, and that all the company is entitled to ask is a fair return on that which it employs for the public convenience. Value is not determined by replacement cost, though that may be a consideration in determining what is fair to the public and the utility, in the light of the rule that the interests of both must be considered."

Whether this statement is correct or not depends upon what the defendants mean by the word "recognizes." If they mean that all the cases, or any cases, have discussed

the question of the need or admissibility of a single rule or principle of valuation, and have held that no such rule or principle can be applied or recognized, the statement is, I believe entirely incorrect. I have carefully examined all the federal cases which I have found on this subject, and have found no case of which the statement is correct.

If they mean by the word "recognizes" that all of the cases have been adjudicated without specifically discussing the need or desirability or practicability of formulating and applying such a rule or principle, the statement is, with the exception perhaps of the Minnesota rate case, substantially true, and for the reason that the question was not distinctly raised in any of them. The fact that the kind of value precisely that is required to be found in a rate case is of special character and somewhat different from that which is ordinarily meant by the word value in common parlance, does not seem to have been brought out in the cases until the decision in the Minnesota rate case rendered while this case was pending. In that case questions arose which called for a more careful consideration of the subject of value in a rate case than had hitherto been called for, and the court in its decision discussed the question more fully than had been done in previous cases, and therein laid down such principles for the valuation of railroad property in a rate case as were required for the decision of that case.

That decision being the latest and most authoritative utterance on the subject, I studied it carefully in an effort to determine what kind of value precisely it was that the court intended should be found and applied in a rate case, but was unable to settle that question clearly in my own mind, because the word "value" was used in different places in connection with different qualifying words in such a way that the precise kind of value intended was not clear to me.



I thereupon asked from counsel on each side answers to a series of questions on this subject, and received answers from each, but although helpful in some ways, neither of the answers attempted to define or specify the precise kind of value required, and they were in disagreement on some essential questions.

After a further and very careful study of the subject, I reached the conclusion set forth in my findings, viz: that the kind of value that is required to be found in a rate case is what I have there called "replacement cost value," meaning by that reproduction cost, less depreciation plus appreciation. This I became convinced is the kind of value that meets the requirements of the Minnesota rate case and of every rate case, and that it is the only kind of value that will meet those requirements. That conclusion I believe to be in entire harmony with every adjudicated case instead of being in conflict with all of them, as here claimed by defendants.

In referring to the case of Smyth vs. Ames, counsel evidently have in mind the part of that decision which mentions "the original cost of construction; the amount and value of outstanding bonds and stock, and the probable earning capacity of the property under rates prescribed by statute" as some of the subjects which may be considered in valuing the property in a rate case; and in asserting that my conclusion conflicts with that case they evidently assume that the court there intended to say that the subjects mentioned must enter into and affect or influence the valuation, and therefore that no principle of valuation is admissible that does not take them into account. I can see no good ground for assuming that such was the intention in the language quoted; on the contrary, it seems to me that the language could not, in the nature of things, have been so intended. And if, in fact, the language quoted is capable of only the con-

struction given it by defendants, it has been disregarded by the later cases, none of which recognizes the proposition that the original cost of construction, the amount and value of outstanding bonds and stocks, or the probable earning capacity of the property under rates prescribed by statute, have any bearing in determining the value on which a public service corporation is entitled to a fair return.

Defendants' objection No. 4 relates to the same subject as objection No. 3 last considered. The objection is, in effect, that it is commercial value rather than replacement cost value on which the complainant is entitled to a return, and which therefore is to be determined as the basis on which the validity of the prescribed rate is to be tested. I have already found that the commercial value of the property in its entirety as an operating instrumentality cannot be taken as a basis of rates or as a basis on which to test the constitutionality of the prescribed rate, because it itself depends upon rates; and for this finding, and the further finding that it is replacement cost value that must be taken as such basis, I have already given my reasons very fully. On a careful consideration of this objection and the arguments advanced in support of it, I see no reason for changing the views already expressed, and no occasion for further discussion of the subject by me, except to explain why the argument in support of the objection fails to convince me or to show how commercial value can possibly be made to serve as a basis on which to test the constitutionality of the rate.

The argument is in substance this: that a railroad may not be worth commercially the amount of its replacement cost, and that where such is the case, replacement cost cannot be made the basis of rates, because it would be inequitable to require the public to pay a return on any greater amount than the commercial value, and that

therefore the rates should be reduced accordingly. Now, it is perfectly true, of course, that a railroad may not be worth commercially the amount that it would cost to replace it; but to say that where such is the case, that fact furnishes a reason for a reduction in rates, is a proposition that is to me wholly incomprehensible. It seems to me to involve a kind of mental inversion—the drawing of a conclusion that is the direct opposite of that which is plainly called for by the premises. Wherever a road is not worth commercially the amount of its reproduction cost, that failure of value is, of course, due to its inability to earn enough to pay a fair return on that amount, and that inability is itself due to one or the other of two causes, viz: either to a lack of business, or to restrictions imposed either by statute or by competitive conditions on the ability of the company to charge remunerative rates. And if it is true that the failure of earnings calls for a reduction in rates, the reason for such reduction must be found in one or the other of these two causes or conditions. Now, how is it possible to find in either of these causes a reason for compelling a reduction in rates? Suppose the failure of earnings is due to statutory rate restrictions; would it not be wholly irrational to say that such failure of earnings calls for a still greater restriction, as would be the case according to the defendants' theory?

Proceeding on the defendants' theory of the kind of value that is supposed to be protected by the constitution, how could any statutory rate be questioned, and what would there be to prevent an entire confiscation of the company's property?

If a falling off in commercial value is held to justify a reduction in rates, the constitutional protection against confiscation is thereby rendered a mere myth. Each falling off in commercial value will call for a reduction in

rates, and each reduction in rates will cause a further falling off in commercial value which further falling off in value will, in its turn, call for a still further reduction in rates, which will cause another falling off in value, and so on indefinitely until the entire value of the property disappears automatically under the working of this theory.

Precisely the same results would follow if the failure of earnings was due to either of the other causes. If it was due to competitive conditions, those conditions would, under this theory, call for a reduction of rates which would cause a further falling off in value that would call for a further reduction in rates, and so on until the end above indicated was reached.

Thus the competitive conditions would start this process of adjusting rates on the basis of commercial value, and that is all that would be necessary, for, once started, it continues to operate, automatically, until it has finished its perfect work in the complete wiping out of the value of the property.

If the failure of earnings was due to lack of business, the result would be the same as when due to competitive conditions, for competitive conditions means merely a lack of business sufficient for both competitors.

In illustration of their contention for commercial value, defendants cite a supposable case where the commercial value of a road has been greatly reduced by the building of a parallel line competing at all points, and where the quantity of business in the territory is only sufficient to pay a return on the reproduction cost of one of the roads. There they say the public should not be required to pay a return on the reproduction cost of both roads, but only on the commercial value of each as that value is affected by those competitive conditions, and that the rate should

therefore be reduced below what it was before the building of the competing line.

This contention involves a confusion of issues. It involves the assumption that the issue here is the same as it would be where one or both the supposed roads is asking for an increase of rates because of the increased amount of property created by the addition of another road. If such were the issue, the contention that such increase should not be granted would be perfectly sound.

But the issue in a rate case involving the question of confiscation, instead of being the same or similar, is exactly the reverse. There the claim is not for an increase in rates, but for protection against a decrease, and the question is whether there is good ground for a decrease.

In the supposed case, the claim of the railroad company would be that the building of the competing line and the cutting in two of the earnings furnishes no reason for a decrease in rates,—that the duplication of the property devoted to the service does not lower the cost of the service in the least, or increase the earnings realizable from the business, but only has the effect to spread these earnings over a greater amount of property,—thus causing a loss, not to the public, but to the owners of the property—and that it is contrary to all reason to say that this loss to the owners entitles the public to a reduction in rates involving a still further loss to the railroads.

For the foregoing reasons, I am unable to see from defendants' objection and argument thereunder how commercial value can possibly be made to serve as a basis for testing the validity of rates.

But it is such a reduction and on such grounds that the defendants call for in this case. They liken the complainant's road to a road which has been paralleled by a competing road; they claim that it has since its construction been subjected to competition at all important points,

which has greatly cut down its earning power, and that for this reason it is not worth commercially what it would cost to reproduce it, although it was worth that amount when constructed; and that the rate should therefore be reduced.

Now, suppose that the rate is reduced on this ground. Can there be any question that the commercial value of the road would be thereby further reduced, and when such reduction in value has taken place, is there not then just as good reason for a further reduction in rates as there was for the reduction just made? And is there any reason why the process of rate reduction thus started should not continue, automatically making one reduction after another so long as there was any value remaining for it to operate upon? Is it not clear from these considerations that commercial value cannot possibly be made to serve as a basis of rates? Nay, is it not clear that the prescribing of rates by the Legislature on that basis would be a complete inversion and abuse of the legislative power to regulate rates? In order to see that it would be it is only necessary to recall the nature and purpose of that power, which is this: In granting a railroad charter, the rate for the time being is fixed in accordance with present conditions; but the charter will run for a long period, or indefinitely, and it may be that in the course of time those conditions will change, that the business of the road may so increase that the company can well afford to carry at a lower rate than that prescribed in the charter, and as the business may be more or less of a monopoly, the Legislature reserves the right to change the rate to correspond with the changed conditions and prevent the company from unduly profiting at the expense of the public, but always with the understanding that this power cannot be exercised in such a way as to deprive the company of its property rights,



which are the rights to render the service and to charge such a rate therefor as will pay what the service is fairly worth, which is such a rate as will pay all expenses and a fair return on the value of the property employed.

Now come the defendants with their doctrine of commercial value, and claim that the complainant's rates should be reduced by this reserved legislative power, not because their business has *increased* to such an extent that they can afford to carry at a less rate, but because their business has decreased, and decreased to such an extent that even under the former rate, it will not yield a fair return on the value, and therefore the property is not worth what it would cost to produce it. To make a reduction in rates on such ground would, it seems to me, be to turn the whole scheme of legislative rate regulation topsy turvy. If rates can be regulated by the Legislature on this principle, railroad property in Michigan has no value, except such as the Legislature may choose to give it, and therefore nothing to be protected by the constitution against confiscation.

#### *Valuation of Complainant's Property.*

To meet the issues in this case, complainant caused an inventory and appraisal of all its property to be made as of date June 30th, 1911, by Henry E. Riggs, a civil engineer, with special railroad experience. The defendants later caused an inventory and appraisal to be made on their behalf by Charles Hansel, a civil engineer with special railroad experience as of date October 1st, 1912. Still later in the case, the complainant company caused another inventory and appraisal to be made by Mr. Riggs as of date June 30, 1913. These inventories were arranged in schedules, which schedules were numbered from 1 to 43, inclusive, and both engineers followed substantially the same method. In making my valuation, I

follow the same schedules, using the title for each schedule used by the engineers and including in the valuation of each schedule the property which they included therein.

In connection with each schedule the various objections made thereto are considered and discussed, both as regards property and principles of valuation, except where such objections would be more appropriately considered in connection with another branch of the case.

*Schedule 1.—Right of Way and Station Grounds.*

Before proceeding to the general valuation of complainant's lands, it is desirable to consider certain parcels of the same with reference to their special character and value. These are as follows:

*Lands With Special Value on Account of Their Adaptation for Railroad Purposes.*

In this schedule are embraced two tracts of land for which complainant claims a special value on account of its adaptation for railroad purposes, viz, the so-called South Yard in the City of Marquette, in the County of Marquette, and the right of way in Houghton County from Pilgrim River to and including the Houghton terminal.

The defendants do not deny the complainant's "right to include any value due to special adaptation which inheres in the land itself", but claim that such "value is not ascertainable by reference to conditions which measure it in the hands of the taker instead of in the hands of the individual owner;" and their objection is based upon the claims that the special value here claimed by complainant is one that is determined by reference to such conditions, i. e., that it is the special value of the property to the complainant as a component part of its rail-

road property as an organized entity. If the special value claimed were such in fact, it would be subject to this objection, but it is not as such that it is claimed by the complainant. It is claimed by them as a value which inheres in the land itself, which would exist in the hands of any owner, and be realized by any railroad having occasion to make use of the land.

I find that the special value as claimed by complainant exists in each of the two tracts of land in question; that it exists in the Marquette property to the amount of \$29,590 in excess of the value of the same land for other than railroad purposes of which total \$22,890 appertains to the freight service, and \$6,700.00 to the common service; that it exists in the land of Houghton County to the extent of \$8,534 in excess of the land for other uses, of which amount \$2,449 appertains to the freight service and \$6,085 to the common service. That these two tracts of land have a special value for railroad purposes is undisputed in the case. Defendants' own witness, Mr. Hansel (Record 5103) testified that the Marquette yard was the natural place for a yard and the land by nature adapted for a yard. He also testified that the right of way practically all the way from Chassel to Houghton possessed like special value.

Mr. R. C. Young, an engineer, estimated the cost of constructing a yard at Marquette in the place next best adapted for the same. He found that this yard could not be so cheaply operated or constructed as the south yard, and making allowance for this extra cost of construction and operation, he placed the value of the South Yard at \$108,800 more than the value of the cheapest substitute yard which could be found, provided the value of the land in each yard for other than railroad purposes was the same. He testified that he knew that such value was not

equal but that the land in the South Yard was more valuable, but he could give no definite figure.

As this substitute yard was located on land owned by the complainant and valued in this case, I am able to supply from other testimony the necessary valuations. I have found the value of the land in the South Yard for general purposes to be \$101,710 and the substitute yard \$22,500, or a difference in favor of the substitute yard, by reason of its less valuable land of \$79,210, thus making the south yard more valuable by reason of its natural adaptation to railway purposes by \$29,590. Mr. Young's testimony on this subject will be found Record pp. 7000 to 7014.

The special value of complainant's land from Pilgrim River to and including the Houghton Terminal was estimated by an engineer, F. M. Batchelder, by a comparison of this route with the next most available and cheapest route. The calculation was along the same lines as Mr. Young's valuation, except that it was not necessary to take into consideration difference in cost of operation. (Record 6485-6608.)

*Lands with Water Rights Appurtenant.*

At the City of St. Ignace in the County of Mackinaw, the complainant owns lands on the harbor which fronts on the Straits of Mackinac. In the City of Marquette, in the County of Marquette it owns lands on the harbor which front on Lake Superior; and in the City of Houghton in the County of Houghton it owns lands which front on Portage Lake.

With reference to the company's lands at St. Ignace which abut upon the water, it was the claim of the defendants that the lands and the water right appurtenant thereto should be valued separately, and the value of the water rights be excluded from the inventory of the com-

plainant's lands, because the water rights were not necessarily for railroad use.

The facts are that at this place the complainant maintains a slip for the landing of ferry boats, by which ferry boats alone complainant's railroad is able to make connection with the Michigan Central and Grand Rapids & Indiana Railroads in the Lower Peninsula of Michigan. It also maintains a lumber dock for the shipment of lumber by water, and a merchandise dock for the reception from and delivery to boats of freight and passengers.

The complainant's claim that there is no occasion for valuing water rights separately, but that the entire value of the property including water rights should be included in the inventory for two reasons. First, that the water rights are actually in railroad use by reason of the fact that it is necessary to control those rights in order to secure the needed free access to and use of the company's structures now in the water there, as such access and use might otherwise be cut off or impaired by the exercise of such water rights were they in the hands of others; and second, that wherever property is in actual railroad use the company is entitled to a return upon its full value even though some part of that value grows out of rights which are not being actively and fully exercised by the company.

Each of these claims raises a distinct and somewhat difficult question, the former a question of fact and the latter a question of law.

As to the first question, viz: Is it a fact that the control of the water rights of all those shore lands at St. Ignace, is required by the company in order to protect the railway use of their structures in the water against outside interference?

In answer to this question I find that it is not possible to determine from the evidence exactly what quan-

tity of such shore lands it is necessary for the company to thus control. That it is necessary for the company to control for that purpose the water rights of some of the shore lands, other than what is required for access to their structures in the water, is unquestionable; but just how far such necessity extends does not appear from the evidence and is difficult to determine with accuracy on account of the shape of the bay on which these riparian lands lie. But such determination is not necessary for the purpose of this case—the only question here being, not what lands are so required but whether the lands listed by complainant are so required. On this question the evidence shows that all the riparian lands at St. Ignace listed by complainant are so required, and I find as a fact that all the shore lands at St. Ignace listed by complainant are in railroad use and fairly necessary for such use—necessary either for the maintenance and use of their existing structures or to prevent the erection of other structures which might interfere with such use.

As to the second question, viz, whether the company is entitled to include in their valuation of these lands the value of the water rights even though they do not exercise those rights otherwise than required for protection of the free use of their structures, now in the water, while the question may not be entirely free from doubt, I find that if the company are entitled to list the shore lands in the inventory as being in railroad use, they are entitled also to their full value of the water rights. I have accordingly so valued those lands, making no separate valuations of these water rights. In fact no separate valuation could be made by me of these shore lands at St. Ignace or of those at Houghton, as there is no testimony on which to base it.

At Marquette the tract of riparian land owned by the



railroad is considerable in extent and is put to varied uses.

At the commencement of this suit, the railway company owned and operated two ore docks, one of which ceased to be used during the progress of the suit. It owned a dock for the unloading of coal from boats and also a merchandise dock. It had on the property various buildings used by it for office and storage purposes. A very small part of the land was leased to Armour & Company as a site for a warehouse.

Two small tracts abutting on the water were leased for fish-houses, being the headquarters of fishing tugs doing lake fishing. It was obviously essential that the railroad should hold the title to those fish-house sites to conserve the use of its ore docks in the harbor.

The two coal docks and the merchandise dock were leased to firms or corporations which operated them. One of these firms had a small elevator on the property and carried on a merchandise business in coal, lime, cement and other building materials, and in feed and grain.

The leases to these parties excepted the tracks of the railway company which extended to all parts of the property, i. e., reached all the industries except the fish-houses, and the lessees in all instances paid the railway company a fair rental considering the value of the property occupied. In valuing this property, I find no practical way to deal with it except to treat it and value it as a whole, and to include it as a whole in the inventory of the complainant's real estate, and to include in the railroad earnings all the rents and profits derived by the railroad company from its tenants. I find that all of this land, including the appurtenant water rights is necessary and in use for railway purposes, the facts with refer-

ence to the water rights being essentially similar to the situation at St. Ignace.

Since the decision by the Supreme Court of the United States in *Norfolk & Western Ry. Co. vs. Conolly*, and *Northern Pacific Ry. Co. vs. North Dakota*, the question of how this property shall be treated becomes of minor importance, as all of it is devoted exclusively to freight use.

In the City of Houghton the complainant owns 1,500 feet abutting upon Portage Lake. The main use of this property is as a terminal. It is claimed by the defendants that the land should be valued exclusive of its water rights, and the water rights not included in the inventory of property as being in use for railroad purposes. Portage Lake connects the Cities of Houghton and Hancock with Lake Superior and with Lake Linden. At Houghton the complainant's railroad connects with the Mineral Range Railroad, which serves the Copper Country, so-called, consisting of a large part of Houghton County and all of Keweenaw County. The passage across Lake Linden is on a bridge. It is in evidence that, several years ago, this bridge was destroyed by a boat, and until a new bridge could be built, the only method of railroad connection between the large population of Houghton, and the important copper and other industries north of Houghton, was by scows which carried cars across and landed them upon the water front. It is in evidence that frequently this water front has been used for the reception and delivery of freight. It is the only point on Portage Lake where the complainant's railroad can make connections with the water, either for the reception or delivery of freight. Although these water rights were not in actual use while this case was being tried, the land to which the water rights were appurtenant was in use for railroad purposes, and the use of the water right

is liable to be required at any time, and I therefore think that the land, including the water rights may fairly be considered as in railroad use, or at least, necessary for railroad use, and so I find.

*Trackage Rights in Streets.*

In the complainant's inventory and appraisal of property is certain land lying on Lake Street (a public highway) in the City of Marquette, over which the complainant has, and exercises, under an agreement with the city, a right of way for the maintenance and operation of its railway. This agreement is a mere license which is liable to be terminated at any time by the grantor, but the complainant claims, nevertheless, that it is entitled to include the property so used, in its inventory and at a fair valuation, the same in all respects as if it belonged to it in absolute ownership. Against this the defendants claim that the complainant is entitled to value only its rights in this property; that its right in this property is a mere permit which may be revoked at any time, and which therefore has no determinable value, and should have no value assigned to it in this case.

The question thus raised depends upon the question as to what property it is, exactly, that the company is entitled to a return upon. If it is entitled to a return on only such property as is not only used by the company rendering the service, but is also owned by the company in absolute and complete ownership, the defendants are right and no value can be set down in the inventory on account of these trackage rights, as they are liable to be terminated at any time by the grantor, and therefore have no determinable value; but if the company is entitled to a return upon all such property as is used in the public service; although not held by the company in any greater ownership than such as gives the right of pres-

ent occupancy and use, then the property used in the exercise of these trackage rights should be inventoried and valued the same precisely as property that is both so used and so owned by the company.

On this question I find that the company is entitled to a return upon all the property that is used by it in the public service without regard to the ownership of the property so used. The all important thing that decides whether a given property is to be taken into consideration is, not the ownership, but the use of the property. It is the use that enables the company to perform the service; it is the use that the company sells to the public in performing that service; it is the use, and not the title to or ownership of the property that the public pays for, and it is the use, if anything, that is confiscated by the statute in question. That being the case, the question of the ownership of the property, i. e., the question as to who owns the property is of no consequence or even relevancy to this case. It would not be thought of as relevant to the case but for the fact that nearly all the property used is owned by the company, and also the further fact that, although ownership as regards personnel is of no consequence, ownership as regards value is of very great consequence, as it is the value of the full and absolute ownership of, or estate in, the property that the company is entitled to a return upon in whosoever hands that ownership may be held. As the use which the company makes of the property is exclusive, it absorbs the rental value of full ownership, and as that rental or use value depends on the value of full ownership, it becomes necessary to determine the value of full ownership in order to determine the value of the use which the company is selling to the public—that value being the price which the public is required to pay. How the

company is able to furnish that use, whether by owning the property or otherwise, is immaterial to the public.

If it be said in this connection that this is a case of alleged confiscation and that the company can have no ground to complain of a confiscation of property that it does not own and that is owned by somebody else, the answer is that the confiscation complained of is not the ownership of property, but of its use. The State, by the action complained of, does not interfere with the ownership or possession of the property in question; what it does is merely to compel the company to give the public the use of the property for a compensation which the company says is so small that the use of the property is thereby confiscated.

In accordance with these views, I find that the property used by the company in the exercise of the trackage rights referred to is properly included in their inventory and that it should be appraised at the value of its full ownership. I find also that this property may be valued according to the value of nearby similar property, and I have so valued it. In my valuation of lands, I have included this right of way at a valuation of \$27,023, of which \$20,163 is allotted to freight; and \$6,565 to common. Testimony was introduced by complainant to prove that this right of way was worth \$30,000—the testimony being to the effect that the Lake Superior & Ishpeming Railway Company would willingly pay that amount for it, but I consider the above allowance sufficient and also conservative.

Complainant's inventory contains also another portion of right of way which resembles in some respects the portion above discussed and which is objected to by defendants on the same ground as the latter. It lies in the City of Ishpeming; is 1,250 feet long and occupies land which was formerly a portion of Canda Street. If

the principles above applied to the trackage rights in Marquette are correct, this portion of right of way is clearly includable at its full value even though it were a mere license revocable at will, and had been acquired without cost.

It is not, however, so held and was not so acquired. It was acquired and is held under an agreement with the City of Ishpeming by the terms of which the complainant is given in perpetuity the right to the exclusive occupancy and use of the land in question, in consideration for which the complainant obligated itself to purchase and give to the city other lands to be used as a part of Canda Street, which other lands, the testimony shows, were so purchased and given by the complainant. On these facts, I am unable to see any ground for claiming that this right of way was acquired without cost to the company or to see how it can,—for the purposes of this case, be distinguished from any other right of way owned and used by the complainant.

I have therefore included in the inventory this 1,250 feet of right of way, comprising four-tenths of an acre and have valued it at \$4,800, all of which is allocated to common.

#### *Mineral Values in Right of Way.*

Throughout the city limits of the City of Negaunee, and from thence through the City of Ishpeming, and for some distance beyond, the main lines of the complainant traverse a well-known and very valuable iron ore formation. Besides these main lines, the complainant owns branch lines which are used to reach mines in operation, and are useful and valuable for reaching any mines that may be discovered in the district. The rights of way for all the lines referred to are perpetual and exclusive, and carry with them the right to the permanent main-



tenance of the surface. Throughout the City of Negaunee the ore is a soft ore which is only economically mined by allowing the surface to cave, following the removal of the ore, thus causing very considerable depressions in the surface. If a railroad lies over such an ore deposit and must be maintained, not only is it impossible to remove the ore which underlies the track, but it is impossible to remove the ore lying on either side of the track for very considerable distances, except at an expense which is practically prohibitive. There are now three main lines of railroad traversing the district. Of recent years it has been almost, if not quite, impossible to obtain the right of way across this district, except the carrier would agree to remove its track to another place if ore was discovered thereunder, which place it must itself acquire, and bear the expense of the removal of the railroad thereto.

Shortly before this suit was commenced, ore was discovered under a track of the complainant, and by agreement the Mining Company procured a new right of way, and at its own expense, transferred the railroad thereto, the distance being some 2.75 miles. The entire expense of this transfer and the cost of acquirement of right of way was fully proved in the evidence. In addition to the evidence of the actual cost of this piece of right of way, there was opinion evidence as to the price at which the other right of way of complainant could be acquired through this mineral belt, considering the value of the lands over which they ran and the probability of iron ore existing therein. The chief witness relied upon was Mr. Belden, who had not only purchased the right of way at private sale, but had acquired, by condemnation, right of way over similar lands in the district.

It is obvious that the right of way over this territory could not be valued by the value of nearby adjoining

mineral lands, because the complainant does not own the mineral, but simply an easement with the right of support. It is equally obvious that this right of way is far more valuable than the adjoining lands valued simply as farming or garden property.

The claim of the complainant as to the nature of these lands and the character of the formation was substantially confirmed by Mr. Allen, the State Geologist of Michigan. From his testimony, it appears that while in some parts of this ore formation the geologist would be more apt to expect ore than in others, that a valuable deposit might be found anywhere.

The character of the ore in the City of Ishpeming is different from that in the City of Negaunee, in that it is a much harder ore, and by leaving pillars of ore the ground may be supported so as to maintain a track, but this can only be done at a loss of 30% of the entire ore body.

The foregoing are undisputed facts and on them the question to be determined is, what value shall be given to those portions of right of way? Shall it be merely the surface value of the lands involved, or shall there be included also an allowance for the prospective mineral value?

Upon this question the defendants claim and argue as follows: "This mineral value is speculative". "Our proposition is that in a rate case values which are speculative merely cannot be included. If at any time it is developed that minerals do exist then is a sufficient time to take into consideration whether they shall be included in the value, but until they are discovered and found to be actually existing, there is no warrant under any circumstances for their inclusion."

This argument involves, I think, an erroneous theory of valuation. It assumes the existence in property of

two distinct and separable kinds of value, viz, a speculative and non-speculative value—a value that includes an element that is prospective because based on anticipation of future developments and a value that does not include such an element.

This assumption is not warranted by economic facts. There is and in the nature of things, must be in every valuation, an element that is prospective and therefore speculative, such a speculative element being nothing more or less than an anticipation or expectation of something to be realized upon in the future. Whether this expectation will in fact be realized is always more or less uncertain and to the extent that it is so, the value is speculative. There is no property the value of which is thus made up of two parts which can for any practical purpose be separated and designated respectively as speculative and non-speculative. The assumption made by the defendants that the value of the mineral prospects is entirely speculative, and that the value of the surface rights is entirely non-speculative is unfounded. The one value may be more of a speculative nature than the other, but the difference is only one of degree, and not of kind. Of course, the mere surface rights can be valued separately from the mineral rights, but the value thus given to the surface rights is itself affected by prospects and therefore speculative in various respects, among which is this very contingency of mineral development by reason of which when all mineral rights are thus reserved the surface rights are liable to become nearly or quite worthless in consequence of cavings resulting from the exercise of the reserved right to remove the minerals. There is also in the surface value a very considerable speculative element from the fact that some of the land has a prospective value for building lots, which depends on city growth.

The above quotation from defendants' brief is under the heading "Speculative Values not proper for Inclusion in Rate Cases." Further on in their brief they repeat this proposition and in argument thereunder shift their ground; they say

"The value of the mineral prospect is properly includable in eminent domain proceedings", but "In a rate case, however, the existence of the property being used must be proven as a fact and it is not sufficient to speculate upon the probability of the existence of property or its value. In other words, the railway company must make out a clear case, must show the property and the value which it claims to exist beyond a doubt."

It will be noted that under this same heading, the defendant previously argued that speculative values should be excluded because they are speculative; and that here it is argued that they should be excluded because they cannot be proved with sufficient certainty to satisfy the requirements of a rate case. It will be seen also that the latter argument involves an abandonment of the former. According to it, the question is one of the sufficiency of evidence rather than of kind of value, and the claim is that speculative values are so uncertain that they cannot be sufficiently proven in a rate case although they can be in a condemnation case, because it is said the requirements of certainty are greater in the former than in the latter; and in support of this position they say "it is not every value which is proper in a condemnation proceeding that may be included in a rate case; thus in condemnation proceedings the severance damages are proper to be taken into consideration while they are not properly added to the value of the property in determining the sufficiency of rates."

This clearly involves a confusion of thought between value and damages. The amount allowed to an owner for

severance damages in condemnation proceedings is so allowed not as an increase in the value of the property taken, but as compensation to the owner for a diminution of the value of his remaining property not taken. Such severance damages are in neither case "added to the value of the property", and the assumption that they are so added in a condemnation case, although they cannot be in a rate case is unwarranted and argument based thereon that speculative values are not includable in rate cases, although they are so in condemnation cases is therefore without force.

In addition to these two distinct grounds for the exclusion of mineral values, the defendants allege a third, as follows:

"It is not as though the complainant were now called upon to acquire this property. It owns it and has owned it for a long period and its predecessors acquired it gratis from the State at a mere nominal figure (with the exception of 2-6/10ths miles acquired without cost to it). Under these circumstances where the value of the ore or of the prospect of ore as now claimed did not enter into the cost of acquisition, it is unfair to the public to pay a return upon a speculative mineral value, the possibility for whose existence is remote."

If this argument were sound, and its statements of facts true, it would not only exclude all value for this right of way, but would also put an end to the case. It assumes that it is actual cost that determines the amount upon which complainant is entitled to a return, whereas such cost has not been shown in the case, except incidentally here and there, but on the contrary the case has proceeded entirely on the theory that the amount on which complainant is entitled to a return is present value

estimated on the basis of reproduction or replacement cost. The argument has no more or other application to mineral values than to other values. And as to its statements that this right of way was acquired gratis or at nominal cost, the evidence does not so show, but on the contrary does show that the 2-6/10ths miles referred to was purchased by giving in exchange for it another right of way which must be presumed to have been of at least equal value, since the purchasers were willing to pay for it the amount that it cost them to furnish the complainant's present right of way.

I have thus considered these three arguments at length because they were strenuously urged, but in my judgment all of the questions raised by them are effectually settled by the Minnesota rate decision where it is held that the kind of value to be determined is market value. Whatever elements of value are included in the market value of this right of way, as such value is shown by the evidence, must necessarily be included here. It is the judgment of the buying and selling public that determines the market value, and if that judgment is that the value of the property is enhanced by its mineral prospects, it is, in fact, so enhanced, whether such judgment is wise or foolish—whether the prospects do or do not justify the estimate of an enhancement of value.

Under the rulings of the Minnesota rate decision, it seems clearly to be my duty to find the market value of this portion of right of way and include it in the valuation without undertaking to analyze and differentiate between the different elements of value that enter into that market value. This I have done, as specifically explained in the detail of land values in Marquette County, and the value of lands there fixed through the mineral belt, I believe to be fair and conservative.

With this explanation relative to parcels of land hav-



ing special features, I proceed now to the general valuation of the complainant's lands.

I find the total value of the lands of the complainant in the State of Michigan, in railroad use, to be \$1,780,239, of which amount \$142,679 is the value of lands used exclusively in the passenger business, \$1,025,228 the value of the lands used exclusively in the freight business, and \$612,332 the value of the lands used in common freight and passenger.

Practically without exception, the allocation of the lands to the services was agreed upon between the parties to this suit.

The following is a schedule showing my valuations by counties and the allocations to the different services:

Counties	Pass.	Frts.	Com.	Total
Chippewa ...	\$ 31,372	\$ 34,501	\$ 40,805	\$ 106,678
Mackinac ...		47,863	41,630	89,493
Luce .....		549	5,818	6,367
Schoolcraft		7	3,118	3,125
Alger .....		38	4,252	4,290
Marquette ...	111,307	897,229	360,776	1,369,312
Baraga .....		6,757	17,419	24,176
Houghton ...		32,591	106,308	138,899
Ontonagon...		4,317	25,125	29,442
Gogebie .....		1,376	7,081	8,457
	<hr/>	<hr/>	<hr/>	<hr/>
	\$ 142,679	\$ 1,025,228	\$ 612,332	\$ 1,780,239

I have attached hereto an exhibit on which I have given the value as I find it of every parcel of land therein described, assigning the value to the different services according to the agreed allocation. In general, my exhibit in its descriptions is a copy of complainant's inventory of its lands in Michigan as contained in its Exhibit 1-C, but I have been obliged in some instances to change

the descriptions because I could not otherwise apply the testimony as to values. This statement is particularly applicable to the descriptions in the Village of Baraga.

I proceed to make such comments on particular valuations as seem to me desirable.

*Lands in Chippewa County.—Sainte Marie Union Depot Company.*

In this county is situated the property of the Sainte Marie Union Depot Company, which is controlled by the complainant railroad and the Minneapolis, St. Paul and Sault Ste. Marie Railroad Company by stock ownership, each owning one-half of its stock. The depot property is not operated for profit, but the owning companies share the expense of operation in proportion to their respective use thereof. It is agreed between the parties that one-half of the value of this property should be included in the complainant's inventory and appraisal as part of the property owned by it, and the lands of this depot company are therefore included in the complainant's inventory.

The value of this terminal property is very large and very much in dispute. To prove its value, the complainant produced John G. Stradley, who was and long had been a resident and real estate owner and dealer in that city, and who showed himself very familiar with the value of this and adjacent properties, he having himself purchased very considerable quantities of land in the immediate vicinity and adjoining the terminal property. Basing his judgment upon these purchases and his knowledge of sales of other nearby property, he fixed the value of the terminal property at approximately \$198,000.

Witnesses engaged in the real estate business produced by the defendants fixed very much lower values, so much so that the defendants' claim that the value of complain-

ant's interest in this terminal property is much less than its cost when purchased by the Depot Company in about 1899.

It is undisputed in the case, however, that the property was acquired as the result of the efforts of the citizens of Sault Ste. Marie to establish the freight and passenger depot as a more convenient location, and that the citizens undertook to furnish part of the land, to raise some money to pay for land and that the prices were made very low by some owners as part of their subscription towards getting the depot moved. Notwithstanding these facts, the land cost the Depot Company \$38,000.

Mr. Snell, a witness produced by the defendants, testified that property nearby the depot property increased from two to three times what it was worth before the depot's location was changed, and that notwithstanding that there had been a very considerable falling off in real estate values prior to the time that he testified, property nearby was still worth two or three times more than when the new depot was established.

In view of these facts, and the conflicting testimony, it is difficult to form an entirely satisfactory estimate of the value of this property. However, I think that a great part of the difference between the estimates is due to different methods of valuation—that the defendants' witnesses valued on the basis of what they judged the land would have to be sold for, if thrown on the market in bulk, the depot being removed, while the complainant's witnesses valued on the basis of what it would cost to acquire the property at market value, judging from values and sales of adjoining similar property. Of these two methods, I think the latter is more correct for the purpose of a rate case. I think also that Mr. Stradley had such intimate and thorough knowledge of property values in the vicinity as specially qualified him to judge of

this property, and that his valuation made on the above basis, although much greater than that made on the other basis, is fairer and more reasonable than the other. I think, however, that it is too high and after much careful consideration have decided to place the value of this terminal property at \$137,741.

*Other Lands in the City of Sault Ste Marie.*

Besides the property of the Sainte Marie Union Depot Company which I have already considered, the value of the complainant's lands in the City of Sault Ste. Marie are much in dispute. I have had great difficulty in deciding upon these values. Mr. Stradley was the only witness produced by the complainant, while the defendants produced dealers in real estate whose values were radically lower. The method of valuation adopted by Mr. Stradley was substantially correct, that is, he undertook to apply the value entirely upon recent sales of nearby lands. I am not, however, convinced that Mr. Stradley had a sufficient number of sales to establish from such sales a fair average value of the railroad lands. On the other hand, it was evident that the witnesses for the defendants applied to the railroad lands wholesale prices as though these lands were in the market to be sold in bulk. After careful consideration of the evidence, I have fixed values which are materially lower than Mr. Stradley's and in some instances very considerably higher than those fixed by defendants' witnesses, but which, I believe to be conservative and fair to both parties.

*Mackinac County.*

In this county I have fixed the values as claimed by the complainant because the witnesses produced by the complainant were, in my judgment, better qualified to judge and possessed a more thorough knowledge of values than

those produced by defendants, especially in respect to land values in St. Ignace where the most valuable property of complainant in this county was located.

*Luce and Alger Counties.*

In these two counties there is no substantial dispute between the parties as to the value of the property.

*Schoolcraft County.*

I have fixed a value of \$5.00 per acre for the rural lands in this county, which I believe is a conservative valuation.

*Marquette County.*

In the City of Marquette, I have, in general, followed the valuation fixed by complainant's witness, Mr. M. E. Asire, because I am convinced from the whole testimony in the case that by reason of large experience in the real estate business in Marquette, his intimate knowledge of local conditions affecting values there, and his evident desire to be fair that his valuations were reasonable and conservative.

I think, however, that in valuing item 29 in the City of Marquette, Mr. Asire's method of valuation was not upon correct lines and I have materially reduced his valuations of that item accordingly.

*Mineral Lands in Marquette County.*

I have already treated of the situation and complexities involved in the valuation of this property. The value of the ownership here involved is very hard to estimate. That ownership consists of two general rights, viz., the right of way over the surface and the right of support thereof, i. e., the right to protection against cavings, resulting from the removal of ore from under-

neath. The value of these two rights to the company and the public which it serves is necessarily the amount that it would cost to acquire them, provided that amount is not so great as to be prohibitive. Upon the question of the amount of that cost, we have only the testimony of Mr. Belden, a resident lawyer, who had had much experience in dealing with such rights of way and who based his estimates of value upon his knowledge of what it had cost to acquire other similar rights in the vicinity—a method of valuation which seems to be in substantial harmony with the principles laid down in the Minnesota rate decision. That Mr. Belden was as well qualified as anyone could well be to make such an estimate and that he was honest and fairly conservative there is no room for question. As Mr. Belden's is practically the only testimony on this particular subject, the valuation of this portion of right of way (unless mineral rights are entirely excluded) is to be made on the basis of his estimates and I have therefore made my valuations accordingly, but with certain reductions from his estimates made in order to be safely conservative. On all main line properties, I have adopted his value reduced by 25%.

With reference to all mine branches, I have fixed a value not exceeding \$500 per acre. This I have done, not because there is anything tending to show that these lands could be presently acquired at less prices than those fixed by Mr. Belden, but because I doubt whether such prices would not be prohibitive—whether any railroad company could afford to, or would, pay such prices for any considerable quantity of land, the use of which would be confined to mine branches.

#### *Baraga County.*

With reference to the value of the lands in the Village of L'Anse, there was a sharp dispute between witnesses.



I have fixed values there which I believe are conservative, and give due consideration and weight to conflicting opinions.

In the Village of Baraga, I have, in general, adopted prices fixed by the witnesses for the defendants.

From the Village of Baraga to the Houghton County line, I have fixed values which are somewhat less than the weight of the evidence would perhaps justify. I have done this because I could see no good reason why these rural lands should be worth very much more than rural lands in Houghton County west of Nestoria or in Ontonagon County, the element of probable value as sites for lakeside or summer resort cottages seeming too remote for consideration here.

*Land West of Nestoria in Baraga, Houghton, Ontonagon  
and Gogebic Counties.*

The values which I have fixed on rural lands from Nestoria west to the Michigan and Wisconsin State line are such as do not, in general, exceed the value of nearby or adjoining stump lands, and those fixed by me in Ontonagon County are not greater than would, I think, be justified by the testimony of the defendants' witness, Mr. Garvin, with reference to lands in that county.

---

To my views on land valuations as above expressed defendants' counsel made numerous objections. To some of these objections I will, for the sake of clearness, make answer here. The answers to the others will be found in connection with the objections in the Appendix.

Insofar as defendants' counsel assert (Objection 5 a-1) that I allowed a strategic value for any lands, he is in error. No allowance was anywhere made for strategic value. On two parcels of land a special value was al-

lowed, as hereinbefore explained, but that special value was not on account of any strategic advantage, but on account of their special adaptation for railway purposes. It was a value which inhered in the land itself and would exist in the hands of any owner of the particular parcel of land, and which the owner would presumably receive on a sale, and certainly would be entitled to receive in condemnation for railway purposes.

Defendants' Objection 5 (a) (2) assumes that my findings include a value for riparian rights in lands whose riparian rights are not in railroad use. This assumption is incorrect. All of the riparian rights for which a value was included in my land valuations were found by me to be in railroad use in the manner and for the purpose specified in connection with those valuations.

The question whether the complainant would be entitled to include in its land valuations the value of water rights not actually used by it either for protection of water rights which it does use or otherwise, but which rights are cut off from actual use by the manner in which the lands to which they are appurtenant are put to railroad use, does not arise in this case, unless I am wrong in finding that the control of the water rights of all of the lands included is thus needed for protection.

Defendants' Objection 5 (a) (4) seems to intend to assert or imply that my findings undertake to determine and allow ore values, or values due to ore or other mineral prospects. If such is the intention, counsel are in error. The lands were valued at their market value as shown by the evidence. Whether any, or if so, how much of that market value was due to the existence of ore or ore prospects was not considered by me, and was not within my province for consideration. That my method of valuing lands having mineral prospects was correct I

think is fully sustained in *Montana Railway Co. vs. Warren*, 137 U. S. 348.

Defendants' Objection 5 (a) (5) asserts that my "land values, generally, are excessive and contrary to the weight of evidence." This objection is so extremely general that it is impossible to discuss it. The same is true, in varying degrees, of a considerable number of the objections which follow. This I very much regret, for the reason that I have been not only anxious to consider all supposed errors in my findings, and to correct all real errors, but anxious also to give full and fair consideration to every objection. But where the objection is of such general character I am able to do neither. There are one hundred and sixty-one separate descriptions of land embraced in the valuations, and as each is valued separately, there are hundreds of different "land values" to each and all of which this objection applies. Upon comparatively few of these specific parcels has there been any discussion in briefs or oral argument as to their value. Counsel on each side, in general, contented themselves with discussing the principles to be used in valuing the different classes of land. They respectively furnished me a list of lands with the value they claimed for each parcel, together with references to the testimony claimed to sustain their valuations.

I do not complain of this method of procedure because probably it was the only feasible one which would not make briefs and oral argument unreasonably long. It enabled me to consider the testimony with a fair probability of missing none that was material, and I have considered it. I saw each witness and I have used my best judgment not only in determining the witness or witnesses best qualified to establish the value of each particular description, but also in applying the testimony to each parcel involved.

Yet this objection asserts that each of the valuations is excessive and not supported by the testimony, and at the same time fails to state what the defendants claim that any of them should be. Such an objection it is clearly impossible to discuss. And if it could be discussed, it could not possibly be met, for if every valuation were reduced in response to it, such reduction might or might not be sufficient to satisfy the objection, because there is nothing to show what reduction the objection claims should be made.

Defendants' Objection No. 5 (b) (1) asserts that lands in considerable or large tracts are considered and valued upon the basis of adjacent or nearby lands subdivided into small lots and upon the basis of an immediate sale of the whole of such lands at the values or prices which were paid for a small number of lots out of a large number in the vicinity.

No lands were valued by me on the basis described in this objection. The lands were valued by me upon the proved market value of similar adjoining, adjacent, or nearby lands upon the assumption that it would cost the complainant that amount to presently acquire such lands either by purchase or condemnation.

Defendants' Objection No. 5 (b) (2) asserts that in my valuation the assumption is given effect that there would be an immediate demand, at high prices, for all of the South Shore lands now occupied by the railroad. No such assumption was either made or given effect by me.

It is asserted under subdivision (3) of the objection last named that

“the detrimental effect of the railroad, as giving a lower value to lands in its immediate vicinity for other than railroad purposes, was not taken into account, in that the railroad lands were considered of the same value as, and compared with, residence and

high class property located in the better parts of municipalities where those lands lay."

I uniformly took into account the detrimental effect of the railroad upon the lands in its immediate vicinity, and the same is reflected in my valuations wherever such effect was found by me to be shown by the evidence.

Subdivision (4) of this objection asserts that

"principal and important streets in municipalities were assumed to be projected through and onto the lands of the complainant, and the further assumption was placed that there would be an immediate demand for all the railroad lands thus assumed to be on such streets for the same uses as the occupied lands now on such streets or in the vicinity."

None of my valuations were based on either of the assumptions mentioned. The objection could apply only to the passenger station property at Marquette on Front and Third Streets and property adjoining on the west, between Third Street and Fifth Street. The testimony as to the division of that property by the opening or extension of certain streets was considered by me only in determining that this property was similar to the adjacent and nearby property, and therefore comparable in value.

Subdivision (5) asserts that I adopted values which are based upon purchases for railway purposes, resulting in the inclusion of the values and elements of value for railway purposes forbidden under the Minnesota rate cases.

None of my valuations were based upon purchases which included values or elements of value for railway purposes which are forbidden by the Minnesota rate cases. In the two cases hereinbefore mentioned I did find that the lands had special value by reason of their adapt-

ability for railroad use. Such method of valuation is not forbidden by the Minnesota rate cases but expressly allowed.

There were other objections to my land valuations, but these are all that I consider it necessary to here treat.

### *Schedule 3.—Grading.*

Under the general heading "Grading", the valuation engineers employed by the respective parties, following the classification laid down by the Interstate Commerce Commission for construction accounts, included a number of different items as follows: (1) Grading proper, being the cost of moving materials used in the construction of the roadbed, including earthwork, solid rock and loose rock; (2) clearing and grubbing; (3) corduroy; (4) rip-rap; and (5) retaining walls.

I follow their classification in making my findings. I have fixed the value of the items contained in this schedule and also of all succeeding schedules, as of June 30, 1913, that being the latest date on which figures have been submitted to me.

*Grading.*—The Riggs and the Hansel estimates of quantities of materials moved in grading are not far apart, Hansel's figures being somewhat less than those of Riggs on earthwork, but somewhat greater on rock. There is also a difference between them, due to the fact that Riggs estimated grading quantities on all branch lines, while Hansel estimated no grading quantities on those branch lines the grade of which is not owned by the complainant. If the grading quantities on such branches are deducted from the Riggs' 1913 totals as is conceded by the complainant should be done the total of Riggs' grading quantities including earthwork, solid rock, loose rock, shrinkage, overhaul, grading on crossings, depot grounds, etc., would be 7,651,461 cubic yards. The Hansel



total for the same items is 7,557,800 cubic yards. It appears from the testimony, however, that subsequent to the Hansel appraisal there was a large amount of earthwork added to the complainant's road by the filling of a number of trestles, the added quantities by reason of the filling of these trestles being 131,500 cubic yards. If this yardage is added to the Hansel 1912 estimate to reach the correct figures for 1913, the grading quantities, as found by Hansel, would be 7,689,300 cubic yards, or considerably in excess of Riggs' as corrected.

I have therefore taken the grading quantities as found by Riggs in 1913, corrected by deducting for branches, the grade of which is not owned by the complainant, and I find the quantities to be as follows:

Earthwork, including shrinkage, over-	Cubic Yards
haul, grading crossings, etc.....	7,404,489
Solid rock.....	67,628
Loose rock.....	179,344
Total.....	7,651,461

Mr. Riggs and Mr. Hansel agreed as to the proper unit prices for solid rock and loose rock, but differed as to the unit price on earthwork. Mr. Riggs used a unit price for earthwork of 30¢ a yard, while Mr. Hansel used a price of 20¢ for sand; 40¢ for earthwork at sink holes, and 26¢ for other earthwork, his average price being 25.6 cents. All the other witnesses who testified on this point, agreed that 30 cents a yard was a fair and conservative price for earthwork in the territory through which complainant's railroad runs, where, on account of the rugged country, the short working season, and the severe climatic conditions, the cost of the work would be much greater than in most other parts of the country. For instance, Mr. Hogeland, the chief engineer of the Great Northern Railroad, testified that while the average price of such

work on that road was 19.3 cents a yard, yet the average price of such work in Northern Minnesota, a country very similar in physical and climatic conditions to the Upper Peninsula of Michigan, was 36¢ a yard.

Mr. Loweth and Mr. Young, both of them with large experience in construction work in the Upper Peninsula of Michigan agreed that 30¢ a yard would be a reasonable price for this work.

In view of all the testimony which corroborates Mr. Riggs' estimate of the proper unit to be used, and in view of the fact that the Hansel price is supported by the testimony of no other witness, and the only basis for the same, as shown by the record, is his opinion, based on his own experience, none of which experience, as admitted by him, was gained from work in the Upper Peninsula of Michigan, I find that the Riggs' price for earthwork should be adopted, and I have adopted it, together with his prices for rock, which agree with those of Hansel.

The valuation of this subdivision of the schedule, with the allocations to the different services is as follows:

Freight .....	\$ 204,381
Common freight and passenger.....	2,197,937
	<hr/> \$2,402,318

Defendants' Objection No. 5 (c) (3) asserts that I "assumed that to reproduce the earth grading upon the complainant's line and right of way would cost thirty cents per cubic yard, whereas the true cost to reproduce, and the real reproduction value, is much less, and does not exceed an average of twenty-five cents per yard."

"The price adopted for grading is higher than prices paid by the South Shore on its line in recent years, and higher than that shown by the majority of bids on twenty-five miles to be constructed for the Chicago, Milwaukee and St. Paul in the vicinity."

I assume that where this objection says I "assumed" that to reproduce the earth grading upon complainant's right of way would cost 30¢ per cubic yard, it was meant to say that I "found" that to be the cost—the fact being that I found from the testimony that such would be the cost, and in connection with such finding, discussed the testimony on which the finding was based. That finding is now objected to on the ground that it is "higher than prices paid by the South Shore on its line in recent years, and higher than that shown by the majority of bids on 25 miles to be constructed for the Chicago, Milwaukee and St. Paul Ry. in the vicinity, and it is claimed that because certain grading had been done on these roads in recent years at a less cost than 30¢, the allowance here should be much less than 30¢, and should not exceed 25¢—in other words that those specific instances of a less cost than 30¢ outweighs the opinion evidence of all the witnesses except Mr. Hansel, and requires the fixing of a price lower even than that fixed by the latter.

To judge of the validity of this claim it is necessary to examine these specific instances of cost and inquire whether they are entitled to such weight as evidence of the average cost of grading the complainant's entire line. I find in the testimony proof of only three contracts for grading, viz: one in 1904, where the price was 26¢ for earth and 40¢ for hard-pan, one in 1907 and one in 1909, in each of which the prices were 35¢ for earth and 50¢ for hard-pan. I assume that these are the contracts referred to in the objection, but am unable to see in these contracts any tendency to prove that the allowance of 30¢ is too high, especially as that allowance includes the moving of hard-pan. The other piece of work probably contemplated by the objection and mentioned as having been done on complainant's road, is the 2.6 miles of new road constructed by either the Cleveland-Cliffs Iron Company

or the Lake Superior & Ishpeming Railway in 1911, and afterwards turned over to the complainant. The grading on this piece of road was done at a cost of 28¢, including some rock. To what extent the cost of grading this small piece of roadway should be taken as proving what would be the average price of grading the complainant's entire line would depend on the extent to which the conditions affecting cost are the same in the two instances. As regards the identity of those conditions, there is no direct testimony, but some indirect. This particular grading was done under the direction of the witness, Mr. Young, he being the chief engineer of the Lake Superior & Ishpeming Railway; and he must therefore be regarded as the most competent person to testify as to the identity of conditions and the consequent extent to which the cost in this instance can be taken as proving the average cost on the entire line. He does not, in his testimony, compare the conditions in question, but he states by necessary inference that the grading cost in this piece of roadway is not to be taken as showing the average cost on complainant's entire line. In answer to a specific question calling for his opinion as to the average cost of grading the entire line, he fixes that price at 30¢. There is no question of Mr. Young's fairness and reliability, and I am satisfied that the difference of 2¢ between this specific cost and the 30¢ average cost is due to differences in conditions. Certainly the specific instance of cost cannot be allowed to outweigh both Mr. Young's testimony and that of all the other witnesses except Mr. Hansel. The other specific instance of grading cost referred to in the objection is similar in effect to that last mentioned,—the engineer under whom the work was done being a witness in this case and testifying that the average cost of grading on complainant's entire line would be 30¢ or more; and

in this instance, the witness testified as to the identity of conditions, to the effect that they were not the same, and explaining that the price there paid was exceptionally low for reasons which he mentioned.

After a careful examination of the objection, I am unable to come to any other conclusion from the testimony than that I have hitherto expressed.

*Clearing and Grubbing.*—Of the 419.61 miles of main line-right of way owned by the complainant in Michigan, it appears undisputed from the testimony that with the exception of 14.88 miles of open swamp, the entire right of way in its original construction required clearing and grubbing.

Messrs. Riggs and Hansel, the engineers employed by the complainant and the defendants, respectively, on the reproduction theory, felt compelled to estimate clearing and grubbing, not upon the amount which was originally required in the construction of the road, but by an estimation of the amount which would now be required, based on the condition of the lands adjoining the right of way.

On this method, Mr. Riggs, for the complainant, estimated that 85% or 4,098.42 acres of main line, outside of cities and villages, would require clearing, and that 40% of the cleared area would require grubbing, the combined cost of which he estimated at \$80 per acre for the acreage above named, being \$40 an acre for clearing and \$100 an acre for grubbing.

Mr. Hansel, in his inventory, estimated considerably less quantities both of clearing and grubbing, although he agreed with Mr. Riggs in the unit prices which should be applied.

In January, 1914, Mr. Cadarette went over the entire main line to determine the exact conditions of the road as to the amount of clearing and grubbing which would be required on a reconstruction judged by the condition

of the lands adjoining the right of way. He testified that of the 419.61 miles of main line, 40.83 miles were cleared in cities and villages, 39.22 miles were cultivated or capable of cultivation, 14.88 miles were open swamp, and 324.68 miles would require clearing and grubbing. The acreage, therefore, requiring clearing at that time, at 12 miles to the acre, was 3,896.16 acres.

I am convinced that Mr. Gadarette's investigation was carefully and correctly made, and I accept its results as to the number of acres upon which clearing must be estimated.

When we come to the question of grubbing, we find a disagreement between the engineers as to the proportion of the cleared area requiring grubbing. Mr. Riggs' estimate was that this percentage would be 40%. Mr. Hansel gave no percentage but by comparing his allowance for the number of acres requiring grubbing with his acreage allowance for clearing, we find that his area requiring grubbing was 29.88% of his acreage requiring clearing.

I am not satisfied that the Riggs' estimate of the percentage of grubbing required is any more correct than that of Hansel, and I have adopted the Hansel percentage of 29.88% which I have applied to the 3,896.16 acres requiring clearing as found by Cadarette and adopted by me. This acreage requiring grubbing would be 1,164.17 acres.

Mr. Riggs computed clearing and grubbing on branch lines in the same manner as for main line, except that he estimated a 50-foot instead of a 100-foot right of way, making an acreage of six acres to the mile.

I have not been able to accept the estimates of either Riggs or Hansel on the clearing and grubbing on branch lines, as the figures of both are excessive. On some of the branches which they included, the grade was not



owned by the complainant; other branches are in territory where I have valued the right of way as improved lands, being branches in cities and villages, and the mining district. This leaves only four branches on which I have allowed clearing, viz: the Fiborn Quarry, Hunter, Arnheim and Bessemer branches, with a total acreage of 70.55 acres of which acreage 29.88% or 21.08 acres would require grubbing. I have figured clearing and grubbing on this acreage at the same prices used on the main line.

The theory on which the complainant claims this allowance for clearing and grubbing is that the land in the right of way should be valued on the basis of reproduction cost, and that such cost is to be ascertained by estimating the cost of acquiring the land in the uncleared and ungrubbed condition in which the adjoining lands now are, but without timber value, and adding thereto the cost of clearing and grubbing.

The theory on which the defendants claim that no allowance for clearing and grubbing should be made is that under the decision in the Minnesota rate case, the lands in the right of way cannot be valued in this way; that the Federal Supreme Court there laid down a general rule on this subject which restricts the value of the land in the railroad right of way to a certain maximum, such maximum being the value for other purposes of adjacent or nearby lands of a similar character, and that the right of way in question must therefore be valued on the basis of the value for other purposes of the agricultural lands in the vicinity that have been cleared and grubbed, even though that value might, in many instances be much less in amount than the cost of clearing and grubbing alone. According to this claim, it will be noted clearing and grubbing is not to be treated as an item of cost in the construction but as work that had been

done on the land previous to its acquisition and the cost of which, therefore, has been merged in the land value and been paid for in the amount paid for the acquisition of the land.

Which of these claims should be sustained? What we are here trying to do is to estimate the cost of reproducing the property; and for that purpose we are employing a hypothetical reproduction; and the precise question raised by these claims is whether in such hypothetical reproduction we are to assume that the land on which the roadway is to be constructed is in a state of nature or other condition requiring it to be cleared and grubbed or that it has been already cleared and grubbed.

The complainants assume the former; the defendants the latter. Which of these assumptions is correct? Take, for example, a certain mile of the complainant's railroad, running through a forest or through cut-over lands—in estimating its reproduction cost by means of a hypothetical reproduction, which of these two kinds of land is to be taken for the right of way? Or, to put the question in another way, which lands are to be taken and treated as the "similar lands" contemplated by the Minnesota rate decision? There are many kinds and degrees of similarity, and all lands are similar to all other lands in many respects. The lands of the complainant's right of way are similar to both of the two kinds mentioned—similar to the adjacent lands in some respects, and they are similar to the nearby farm lands in other respects, and in many respects they are similar to both. It is evident, therefore, that the similarity contemplated by the Minnesota rate decision is a particular kind of similarity, and it is also evident that it must be a similarity which produces similarity of value—it must be a similarity in respect to those things that determine value.

Now, when we compare the 12 acres in any given mile

of the right of way in question with a similar quantity of nearby farm lands, we find that in respect to the qualities which determine the value of each there is no similarity but a very decided dissimilarity. The qualities which determine the value of the parcel of farm lands are productiveness of soil and convenience of shape for agricultural purposes. On the other hand, these two qualities which are of such value to the farm lands are of no value whatever to the right of way, the first is of no advantage and the second is not only of no advantage, but is a distinct disadvantage.

Turning now to the qualities which determine the value of the land in the right of way, we find that the one all-important quality is its shape and that this same shape which renders it most valuable for a right of way, renders it unavailable and practically valueless as farm lands. The only point of similarity between them that helps to determine value is that both have been both cleared and grubbed and in that respect, they are similar only as regards a part, viz., two-fifths of the right of way—the residue of the right of way being cleared but not grubbed. And this point of partial similarity, it should be noted, is something that does not pertain to the land in a state of nature, but is an improvement made by the hand of man, while the respects of dissimilarity, quality of soil, and extent of length pertain to the land in a state of nature.

On the other hand, in respect to the qualities which determine the value of the land as right of way, the similarity between the land in the right of way and the parcel of adjacent uncleared and ungrubbed land supposed to be taken is complete. The land to be so taken is presumptively the same in all respects as that in the existing right of way, except in respect to the improvements that have been made on the latter; and in estimating the reproduction cost of the right of way lands in

their present condition, it is proposed to take the cost of acquiring land in the state of nature that the adjoining land now is, and add to that cost the cost of making the existing improvements.

That the amount of these costs will be a truer estimate of the cost of reproducing this parcel of right of way cleared and grubbed than would the estimated value of a twelve acre parcel of farm land in the vicinity, cleared and grubbed, there can, of course, be no question. Hence, if this parcel is to be valued on the basis of reproduction cost, the former rather than the latter amount must be taken and the cost of clearing and grubbing must therefore be allowed.

But it is claimed that this parcel of right of way as cleared and grubbed cannot be thus valued on the basis of reproduction cost, that the ruling in the Minnesota rate decision forbids such valuation and requires that it be valued on the basis of the average market value of cleared and grubbed farm lands in the vicinity, and as that value is to be determined by actual sales of such lands, the amount that it would cost to reproduce this parcel of right of way in its present condition as regards clearing and grubbing is entirely irrelevant. In view of this claim, the question of clearing and grubbing becomes entirely a question of the construction of the Minnesota rate decision. Does this decision lay down a rule of valuation that requires this parcel of cleared and grubbed right of way to be valued as claimed by defendants, viz., at the market value per acre of similar cleared and grubbed farming lands in the vicinity? I am unable to see in that decision any intention of laying down any definite rule of land valuation; and I cannot conceive of there having been an intention to lay down the rule that a parcel of land in the cleared and grubbed portion of a railroad right of way is to be valued on the basis of the

value per acre of the same quality and quantity of cleared and grubbed farming lands in the vicinity. There is no relationship or similarity between the two parcels that would make the value of the latter a criterion of the value of the former; on the contrary, the fact is, as already noted, that the qualities which determine the value of the one are qualities which have no effect upon the value of the other, and the values are therefore not comparable. Moreover, if the court <sup>20</sup> did intend to lay down such a rule of valuation, they certainly intended it to be applied only in cases where its application would be reasonable. In the present case, its application would not only be unreasonable, but impossible. It would be so because there are no similar parcels of cleared and grubbed land from which to obtain the average value required for that purpose. There would be no such similar parcels even if this entire parcel of right of way were uniformly cleared and grubbed; and still less would there be such when as is the case here, the parcel of right of way is not all cleared and grubbed, but as regards clearing and grubbing consists of three distinct parcels, viz., a parcel 40 feet in width and a mile long that has been cleared and grubbed and two other parcels, each 30 feet in width and lying on each side of the wider parcel, and each being cleared but not grubbed. To value such a portion of railway property in the manner claimed to be required by the Minnesota rate decision would seem to be a manifest impossibility.

Furthermore, the language of the Minnesota rate decision relative to this subject refers, as it seems to me, to land in its primary and limited sense, i. e., land in a state of nature without improvements; and if that is true, it is decisive of the matter in question, as the land value there would be limited accordingly and the value of the property in its present condition would be determined by

adding to that land value, the estimated cost of clearing and grubbing as proposed to be done in this case.

It is with this understanding of the Minnesota rate decision and of the meaning of the word "land" that I have fixed the land values in the rural right of way in this case where clearing and grubbing would presumably be required in order to reproduce the right of way in its present condition—the word "land" being there taken to mean land in a state of nature or cut over or stump land.

The value fixed by me for clearing and grubbing on main line right of way is \$272,263.00 made up of the following items: 3,896.16 acres of clearing at \$40 per acre, \$155,846; 1,164.17 acres of grubbing at \$100 an acre \$116,417. This amount is allocated between freight and common freight and passenger as follows:

Freight .....	\$ 5,202.00
Common Freight and Passenger .....	267,061.00

the allocation to freight being for freight spurs and side-tracks within the main line right of way.

The valuation placed by me for clearing and grubbing on branches is \$4,930, all allocated to freight.

*Rip-Rap.*—Mr. Hansel inventoried rip-rap on complainant's road in Michigan at \$4,110, while Mr. Riggs, through oversight failed to include any rip-rap. It is agreed that the rip-rap is there as an element of value, and I have included it at the Hansel figures, and assigned it to the common freight and passenger service.

*Corduroy.*—Riggs and Hansel agreed as to the mileage of corduroy, but differed as to the proper unit price. Hansel's price being the lower, I have adopted the Hansel price, and his total value of \$10,000 and assigned it to the common freight and passenger service.

*Retaining Walls.*—The difference between the parties on this item is due to the difference in estimating the



cost of reproduction. Mr. Riggs' estimate was of reproduction in kind, while Mr. Hansel's estimate was that some of the stone walls could be reproduced in concrete at less cost. I have adopted Mr. Hansel's views, and therefore his figures of \$73,093 for this item.

The allocations are as follows:

Passenger .....	\$ 393
Freight .....	63,924
Common Freight and Passenger .....	8,776

*Allocations.*

I find that the valuations of all the items under Schedule 3 should be allocated to passenger, freight and common, as follows:

Passenger .....	\$ 393
Freight .....	278,437
Common freight and passenger .....	2,487,884
<hr/>	
Total .....	\$2,766,714

*Schedule 5.—Bridges, Trestles and Culverts.*

This is a very long and complicated schedule with many hundreds of different items, and a comparison of the three appraisals is most difficult. Yet as between the 1913 figures claimed by the complainant, and the figures for the same year claimed by the defendants in their latest brief, at page 166, there is a difference of only \$4,346, the complainant claiming \$455,535 and the defendants claiming \$451,189. I do not find that the Riggs estimate, on which the complainant's claim is based, has been shown to be any more accurate than that of Hansel. I, therefore, have adopted the valuations and allocations claimed by defendant. For this valuation Hansel's 1912 estimate is used for a basis, the value of certain timber

reinforcements is added and structures replaced after Hansel's appraisal are deducted at Hansel's figures and the cost of the replacement added at Riggs' 1913 figures for the new structure.

The allocations are as follows:

Freight .....	\$ 12,949.00
Common freight and passenger .....	438,240.00

*Schedule 6.—Ties.*

The two appraisals do not differ materially as to quantities of ties, Hansel's quantities being slightly in excess of those of Riggs. I have taken Riggs' quantities, corrected by deducting his estimate of ties on the branch lines, above referred to under Schedule 3, which are not owned by the complainant.

The principal difference between the two appraisals is as to the percentage of condition. In my judgment the weight of the evidence supports Mr. Hansel, and I have therefore adopted his percentage of condition, 55%, rather than the higher estimate of Riggs.

Both engineers agree on a unit price of 40 cents, that being the average price paid by the complainant for all ties purchased during the latest five-year period, 1909 to 1913, including an allowance of 7 cents per tie for inspection and handling.

---

Defendants, under their Objection No. 5 (c) (4), criticise my use of 40 cents as the basic price for ties, although this is the price that their own witness, Mr. Hansel, fixed. Mr. Riggs, the engineer of the complainant, in his 1911 appraisal, used a lower price, but in his 1913 appraisal he used 40 cents and testified that in his judgment that was the proper price. So unless there was some mistake made by these engineers, this price is

not fairly to be considered in dispute. Defendants claim that Mr. Hansel did make a mistake, viz: they say, in effect, that he found the average cost of ties for the years 1908 to 1912, inclusive, from the reports of the complainant to the Michigan State Board of Assessors, to be 33 cents, and then added 7 cents thereto to cover inspection, loading and transportation, when in fact the cost of inspection, loading and transportation were already included in the report cost. These reports I have examined, and I find that they purport to show the cost at the distribution point, and that they show that the true average cost at that point for the years 1908 to 1912, inclusive, was 33.07 cents, and to 1913, inclusive, was 33.22 cents. The question whether this cost covered inspection, loading and transportation depends on the rules of the Interstate Commerce Commission, in compliance with which the accounts of the complainant are kept, and on examination of those rules I find that the price reported is not required to cover loading or transportation, but that it is required to cover inspection. The cost of inspection is shown by the evidence, without dispute, to be one cent per tie. It appears that in fixing the price at 40 cents Mr. Hansel did make a mistake to the extent of one cent, and I have therefore adopted the basic price of 39 cents instead of 40 cents, and have corrected my finding accordingly.

I find the allocations to be as follows:

Freight .....	\$ 27,544
Common freight and passenger .....	258,918
	<hr/>
	\$286.462

*Schedule 7.—Rails.*

The chief differences between the parties on this schedule are as to the unit price and the percentage of condition.

The difference in unit price results from a difference in the method of computing freight rates. Mr. Riggs assumed that the rail would all be delivered at a central yard at Marquette, at a freight rate of \$2.35 per ton. Mr. Hansel assumed that the rail would be delivered by water or rail to different parts of the line at an average rate of \$1.60 a ton. I am not satisfied that the complainant has met the burden of proof in this regard and have therefore adopted Hansel's unit price of \$30.30 a ton. Also it is my judgment that the Hansel method is the more correct for determining the percentage of condition and I have, therefore, adopted on this schedule his figures, corrected by adding the tonnage of rail added to the road after Mr. Hansel's appraisal.

I find the allocations of the items in this schedule to be as follows:

Freight .....	\$ 132,166
Common freight and passenger .....	1,038,829
Total .....	<u>\$1,170,995</u>

*Schedule 8.—Track Fastenings.*

I find the total present value of the items in this schedule to be \$171,693. I find the allocations to be:

Freight .....	\$ 19,201
Common freight and passenger .....	152,492

There is no dispute between the parties on this schedule.

*Schedule 9.—Frogs, Switches and Crossings.*

I find the present value of the items in this schedule to be \$123,060. The allocations are as follows:

Passenger .....	\$ 941
Freight .....	62,074
Common freight and passenger.....	60,045

There is no dispute between the parties on this schedule.

*Schedule 10.—Ballast.*

The estimates of the two engineers on this schedule differ as to quantities, unit prices and percentage of condition.

It is claimed by defendants that Mr. Riggs' quantities of gravel ballast per mile are excessive, in that he took the same average thickness as did Mr. Hansel, but failed to allow for the cubic contents of the ties. I find that such is the fact and have therefore taken the gravel quantities per mile found by Hansel and applied them to the graveled portion of the 1913 mileage, and have taken the Riggs' quantities of sand and cinder ballast per mile (the same being less than those found by Hansel) and applied them to the portion of the 1913 mileage that is ballasted with sand and cinders, after deducting therefrom the branch lines, the grade of which is not owned by complainant. I have adopted the unit prices used by Mr. Riggs, which are lower than those of Hansel.

*Depreciation of Ballast.*

Having determined the quantity of ballast and its cost of reproduction new, we come to the question of its present value, involving the much mooted question, Does Ballast Depreciate? Upon this question the principal expert witnesses for the respective parties are in flat con-

tradiction—Mr. Riggs, for the complainants, saying that ballast does not depreciate and that it should be carried in the inventory at reproduction cost, and Mr. Hansel, for the defendants, saying that it does depreciate and that the cubic feet of ballast now in complainant's railroad is so depreciated from conditions new that its present value is \$107,000 less than its reproduction cost.

In this dispute there are two distinct questions involved: First, the general question above mentioned,—Does ballast depreciate? and second, the particular question, If ballast does depreciate, has the ballast that is now found to be in place in complainant's railroad depreciated from condition new, i. e., from the condition that it was in immediately after it was put in place?

The first question depends on what precisely is here meant by the word "ballast". The name "ballast" is applied indiscriminately to ballasting-material in all its various conditions and places; in the pit, loaded in cars for transportation, deposited beside the track at the point of proposed application, and finally placed in position under and between the ties of a railway. Now it is evident that in the three first of these conditions, ballast does not undergo a change that causes depreciation. But whether it does so or not is immaterial here as the depreciation alleged is a diminution in the value of the ballast which it is claimed takes place after it has been placed in the fourth condition and one that must therefore result from a change that takes place after the ballast has been applied and while it is still in place. Does ballast, while it remains in place in a railway, suffer such change and if so in what precisely does that change consist? Mr. Hansel (on whose testimony the claim of depreciation is based) says that such change does take place and states specifically what it is as follows:

"Ballast is somewhat peculiar in its relation to up-



keep, in that it is a never ending cost of up-keep of the track; there is no time in the working season between the time of frost going out of the ground, and the danger, the imminent danger of frost coming into the ground that ballasting is not being carried on even in the very best conditions; there is a constant flow into the property of ballast all the time; it disintegrates, blows away and settles into the embankment, perhaps owing to the character of the soil, it may settle into the earth beneath it, but other classes blow away and are carried away by the elements so that there is a constant stream of up-keep there all the time, and yet it cannot be up to a hundred per cent."

According to this testimony, then, the change which is suffered by ballast in place or position and which causes depreciation takes place in three ways; viz., by sinking into the embankment, by being carried away by the elements, and by disintegration. Now that some portions of the ballast in a railway do sink into the ground and some are carried away by the elements and that a diminution in value is thereby caused is undoubtedly true, and if this diminution of value can properly be called depreciation and treated as such, then ballast does depreciate.

But can it properly be so called or treated? Depreciation is a diminution in value of a particular thing. It is the difference between the present value and a previous higher value of that particular thing. Now the particular thing under valuation here is the ballast that is now actually in the roadway. If there was formerly a greater quantity there, some portions of which have been lost, that fact alone does not lessen the value of the quantity which remains and which alone we are now valuing. The reproduction cost which we have determined and to which the depreciation, if any is found, is to be applied, is the

reproduction cost of the ballast now actually there, and not the reproduction cost of any larger quantity that may be supposed to have been there formerly and before any was lost. This fact the witness seems to have lost sight of. He apparently assumes that the ballast now there is the residuum of a larger quantity that was formerly there and that in order to reproduce the quantity now there, it will be necessary to first reproduce the former large quantity and then assume that larger quantity to have been reduced by the elements to the quantity now there. Now, this may be a proper line of reasoning if consistently adhered to; but in order to be so, the reproduction cost which is to be reduced by depreciation must be, of course, that of the larger quantity and not that of the smaller. But the witness does not pursue this course—does not determine the reproduction cost of the larger quantity and apply to it the depreciation which he finds to have resulted from diminution of quantity, but instead, he determines only the reproduction cost of the quantity now there, and applies to it the depreciation found to have resulted from the diminution in the larger quantity. This, it is clear, is a mis-application of depreciation in the process of determining present value from reproduction cost.

It is clear also that the question whether this diminution in value resulting from diminution in quantity can be treated as depreciation depends on what it is that is depreciated, and that it can only be treated so when it is the reproduction cost of the larger quantity as it existed before the diminution took place that is taken as the basis from which to determine present value. This being so, it is evident that it is of no consequence here whether ballast can or cannot properly be said to depreciate from diminution in quantity for in either event, the result would be the same, because the reproduction cost

of the ballast now there, undiminished by depreciation, would be the same as the reproduction cost of the larger quantity diminished by the diminution in value resulting from the diminution in quantity.

Unless therefore the ballast now there has depreciated from some cause other than its diminution from a larger quantity formerly there, it has not depreciated at all and its present value is its reproduction cost. Has it depreciated from any other cause?

The only other cause assigned by Mr. Hansel is disintegration, and it remains, therefore, to consider whether it has depreciated from disintegration.

Disintegration is the breaking up of integers into smaller ones. The integers of which ballast consist are bits of stone and grains of sand. Each of these is itself the product of disintegration—the product of rock disintegration caused by the action of the elements. Each represents a stage in that slow geological process by which solid rock is gradually reduced to fine particles of dust, each is slowly progressing toward that ultimate goal. This being so, it is undoubtedly true that there is at all times some disintegration going on in the particles of stone and sand which form the ballast of a railroad bed. But this disintegration is extremely slow and slight, so slow and so slight as to render it impossible to measure or estimate the extent of disintegration that would take place between the time of ballasting and that of re-ballasting a railway. It would be a manifest impossibility to make at any given time, any rational estimate of the extent to which this process of disintegration had gone forward between that particular time and the time when the ballast was placed there, further than to say that it was practically infinitesimal. And it would be still less possible to make a rational estimate of the de-

preciation in value, if any, that had resulted from such disintegration.

Returning, for a moment, to the question of depreciation in value resulting from diminution of quantity—the impropriety of placing a depreciated value per unit of measurement on a certain quantity of ballast merely because it is not a greater quantity is so manifest that, in fairness to the witness, the reason given by him for so doing should be noted. At pages 1164-5 of his testimony, he says:

“If the D. S. S. & A. property was today for sale as a going property and if I was called in to tell the proposed purchaser what they would have to spend to put that in hundred percent condition I would have to include something for ballast and that something would be the sum I have set forth here as near as I can judge.”

In other words, because it would cost the proposed purchasers a certain amount to add a certain quantity of ballast to the quantity that is there now, therefore, in determining the value of the quantity that is there now on the basis of reproduction cost, it is necessary to reduce the amount of its own reproduction cost by the amount it would cost to add the additional quantity. Whatever propriety there might be in advising a proposed purchaser as stated, there clearly would be none in thus figuring present value on the basis of reproduction cost.

In accordance with the foregoing views, I find that ballast wherever exposed to the action of the elements depreciates slightly from disintegration but that the depreciation from this cause occurring in the ballast of a railway between the time of ballasting and that of re-ballasting is so slight as to be practically inappreciable;

that the ballast that is placed in the bed of a railway gradually diminishes in quantity by the sinking of portions of it into the ground, and by other portions of it being carried away by the elements, in consequence of which new ballast is required to be added from time to time, but that this diminution in quantity does not diminish the value per cubic yard of the ballast which remains in the road; that the ballast now in the complainant's road has not suffered appreciable depreciation from either of the causes assigned, and that its present value is the amount that it would cost to reproduce it.

I find the allocations of the items in this schedule to be as follows:

Freight .....	\$ 39,393
Common freight and passenger .....	570,874
<hr/>	
Total .....	\$610,247

---

Defendants' Objection No. 5 (c) (6) relates to the Schedule "Ballast", and the statement is there made that I determined that ballast does not depreciate. This statement obviously is erroneous. I found that ballast does depreciate, precisely as Mr. Hansel said it did; that is, in three ways, viz: by being blown away, by sinking into the embankment, and by disintegration.

Assuming that ballast does depreciate in these three ways, it is only such depreciation as results from the third way, viz: disintegration, that could be allowed for here, as the ballast valued in the inventory is only such ballast as was found in place at the time of the inventory and as it was all there in place, it could not be depreciated by being blown away or by sinking into the embankment. Whatever ballast had gotten out of place in either

of these ways was omitted from the inventory. It follows, therefore, that the ballast contained in the inventory could have depreciated only by disintegration, and I find that there is no testimony showing any amount of such depreciation, and that, in the nature of things, there could be no such testimony, as the depreciation from this cause between renewals of ballast would be too slow and slight to be appreciable, and that it would not be possible for anyone to determine, by examination or otherwise, what amount of depreciation, or that any amount, had occurred from that cause since the ballast was put in place.

*Schedule 11.—Track Laying and Surfacing.*

This schedule does not embrace any physical property. It consists entirely of labor, viz., the labor of placing in position and fastening the rails and ties, aligning them and providing for them a uniform or uniformly graduated surface on which to rest.

The practical details of this labor are described in the testimony of Mr. Riggs, as follows:

“After you get the gravel ballast shoved off on each side of the track, it has to be put under the ties. Before it is put under the ties, the material that is between the ties must be removed. In my computations of track laying, and in actual railroad usage, it is usual to skeleton surface or half-surface the railroad that is to be ballasted immediately with the material that the bank is made of, and sufficient of it is put between the ties to hold the track to the line of the grade during the moving over of ballast trains and other construction trains.

After the grade is brought up to the line, the next step in the operation is to put the track on and ties are strung along and the rails are spiked to the ties.



Then the surfacing of which I speak is the putting in between ties of some of the material of which the bank is made, in order to keep the ties in place temporarily until the ballast is applied. It would not be practicable not to do the surfacing at all, but wait until the ballast comes along and save this item of cutting out between ties, for which I charge two cents a yard for the ballast, for the reason that the surface of the grade is so rough that rails would be bent and the damage resulting in the way of injury to the rails would more than offset the expense that is gone to in skeleton surfacing and the cutting out of clay, sand or other material after the ballast is delivered.

It is frequently true that in territory where sand or other favorable material occurs, the ballasting which is done is by casting up of sand or other material from the sides. I would call that surfacing rather than ballasting."

It is the cost of doing this work that constitutes the value of this schedule. Upon the question as to the amount of that cost there is a considerable variance in the testimony, not only between the parties, but between the witnesses testifying on behalf of complainant. The latter are four in number and their several estimates of the cost per mile of track-laying and surfacing are as follows: Riggs, \$526; Young, \$792; Loweth, \$803 and Hogeland \$851.

On behalf of the defendants, the only testimony is that of Mr. Hansel, who places the cost at \$600 per mile.

In view of the fact that both Mr. Young and Mr. Loweth had had actual experience in such construction work in the Northern Peninsula of Michigan, as well as a wide general experience, and as the cost of such work

is largely affected by local conditions, I regard their testimony on this question as entitled to greater weight than that of either Mr. Riggs or Mr. Hansel, neither of whom had had such local experience; and taking their testimony in connection with that of Mr. Hogeland, I find the weight of evidence to be in favor of a higher cost per mile than that fixed by either Mr. Riggs or Mr. Hansel, but upon the principle of resolving doubts in favor of the defendants, I have adopted Mr. Hansel's figures and fixed the cost at \$600 per mile. This is the amount that was claimed by complainant's counsel in their brief and the claim was criticised by defendants on the ground that the amount was never greater than that fixed by one of the complainant's own witnesses, Mr. Riggs. In view of the other testimony on the subject and of the fact that Mr. Riggs states that his price of \$526 was a minimum, and that the work would probably cost considerably more than that amount, the criticism does not seem to be well grounded.

I find the total reproduction cost of this schedule to be \$277,704, allocated as follows:

Freight .....	\$ 29,442
Common freight and passenger .....	248,262

I have not allowed the value of track laying and surfacing on any of the branch lines, the grade of which is not owned by the complainant, as the evidence does not show by whom the track laying and surfacing was done.

---

Defendants' Objection No. 5 (c) (7) relates to my adoption of the unit price of \$600, and therein it is claimed that the cost of reproduction of that item is not shown to be in excess of \$526 per mile on complainant's railroad.

On a reconsideration of the evidence touching the cost of tracklaying and surfacing, I am unable to reach any other conclusion than that heretofore reached i. e., that \$600 per mile is the proper allowance for such cost. This is the price fixed by Mr. Hansel and by all the other witnesses except Mr. Riggs, who fixed a minimum price of \$526 and stated that it would probably cost considerably more than that. It will be seen, therefore, that this objection is based wholly on Mr. Riggs' testimony, and that it insists that because he fixed a minimum price of \$526, that is the price which should be adopted, notwithstanding the fact that he says it would probably cost considerably more, and the further fact that the testimony of all the other witnesses is to the effect that it would cost \$600 or more.

I cannot see how it is possible within reason to give such effect to Mr. Riggs' testimony as to what he considers a minimum price, and therefore see no reason for changing the allowance already made.

---

The amount thus fixed is also the present value of the schedule unless it ought to be reduced on account of depreciation. The defendants' claim that it should be reduced on account of depreciation by the sum of \$63,121—that sum being arrived at, not by inspecting the condition of the work, but by applying to the reproduction cost of the schedule the average percentage of condition of the five preceding schedules, viz, 6, 7, 8, 9 and 10. The precise nature of the depreciation thus claimed is indicated by the method employed of determining its extent, viz, by applying to reproduction cost the average extent of the depreciation found to exist in the several items of physical property which enter into the construction of the structures of which track-laying and surfac-

ing is the completion or last stage of the work—those items consisting of (1) Ties, (2) Rails, (3) Track Fastenings, (4) Frogs, Switches and Crossings, (5) Ballast.

It will thus be seen that the depreciation claimed is of an entirely different character from that with which we have hitherto had to deal, in that it is not a depreciation in the value of a certain physical property—a depreciation that is determined both as to its existence and extent by an inspection of the condition of the property, but a depreciation in the value of certain labor performed in assembling a number of items of physical property; and the depreciation is claimed to exist in the value of this labor, not because the labor would cost any less now than when it was done, or that the work is any less efficient now than before, but because the several items of physical property which were assembled by the work are found to be in a depreciated condition. It is seen, therefore, that the depreciation thus claimed is not an actual, but what might be called a theoretical or putative depreciation—a depreciation imputed to the labor employed in reproducing the property, because in that reproduction it is supposed to be employed on depreciated physical material, and is therefore itself presumed to be depreciated to the level of the depreciated material—on the principle, it would seem of *noscitur a sociis*—it having been found in bad company.

Does the method of determining present value on the basis of reproduction cost call for or justify this curious application of the principle of depreciation?

In arguing that it does, the defendants liken this labor to the labor which has entered into a bridge that has depreciated, and, say, that just as the value of the latter is carried down by the depreciation of the bridge, in like manner and in the same degree, the labor of track laying

and surfacing, is carried down by the depreciation of the materials on which it was employed.

Certainly the depreciation of a bridge carries down with it every value that enters into the total value of the physical structure to which the depreciation is applied, including labor, and with the termination of the life of the bridge, every such value disappears—disappears entirely as an element of value in that particular bridge, although it may still have a scrap value for other uses or purposes. And if there is nothing that differentiates the status in this regard of the labor that has entered into the bridge from that of the labor of track-laying and surfacing that has entered into (for example) a certain mile of the complainant's roadway, and if the reasons for the depreciation of the former are equally cogent for the alleged depreciation of the latter, then the defendants' argument would seem to be sound. Is there such similarity between the two classes?

The purpose of determining depreciation and deducting it from reproduction cost is to determine replacement cost—the cost that is to say, of replacing a thing in its present condition. In the case of the bridge, the replacement can be effected only by the actual expenditure of reproduction cost new, but it is nevertheless presumed to be replaced at the cost of reproduction new less depreciation because the company have, or are presumed to have in a depreciation fund set aside for that purpose out of operating expenses, a sufficient sum to cover the difference between reproduction cost new and present value, so-called, including the portion of labor value which had disappeared.

In comparison with this, the mile of roadway presents an entirely different case. The mile of roadway does not, like the bridge, constitute a structural entity which can be replaced only at a cost of reproduction new of the en-

tire structure and to which in its entirety there can be applied a depreciation which may be called a structural depreciation such as is applied to the bridge—such mile of roadway being rather an assemblage of distinct physical items which are brought together for collective use, each of which is depreciated individually, and each of which may be removed and replaced at any time without interference with any of the other items; and therefore the mile of roadway may by such removal and renewal be kept in such condition that it is at all times just as efficient for railroad use as when first constructed. And so long as it is in fact kept in such condition the mile of roadway is just as valuable as an instrumentality for transportation as if newly constructed, and therefore the labor which created that efficiency by uniting the physical items and placing them in position is just as valuable as when newly performed.

If the complainant's roadway is in such condition, then there is no depreciation which could carry down this labor item which entered into it in track-laying and surfacing. Is it in such condition? Upon this question there is abundant evidence to the effect that it is, and no evidence to the contrary. All of the witnesses who testify on the subject, including Mr. Hansel, agree that the road as an operating instrumentality is in 100 per cent of efficiency. And specifically as regards depreciation in this particular item, both Mr. Riggs and Mr. Hansel testify that it should not be depreciated, giving as their reason therefor that it is a labor item; and their testimony would have been perfectly convincing if they had gone further and explained how it is that this item, because it is a labor item, is not depreciated, although other labor items, such for example as that entering into the supposed bridge are depreciated. The explanation is this: labor value is depreciated in a rate case when found in any item of phys-



ical property against which depreciation is permitted to be charged, and also in all items which can presumptively be duplicated or replaced at a cost represented by reproduction cost new less depreciation, such, for example, as the ties, rails, etc., in the supposed mile of roadway.

Where the item under consideration consists entirely of labor supposedly performed in reproducing the property, as in this instance, there obviously can be no depreciation, for it is labor presumed to be performed in the present.

It must be borne in mind that what we are here seeking to do is to determine what it will cost to reproduce this roadway now in its present condition. We have found from Mr. Hansel's testimony that the labor of track-laying and surfacing will cost \$600 per mile; and we are to assume that the depreciated material used can be procured at a cost of reproduction cost new less depreciation. Now, this claim of depreciation would require us to make the further assumption that because the material employed can be acquired at its depreciated value, the labor required which the evidence shows will cost \$600 per mile, can be procured at a less cost in proportion to the depreciated cost of the material employed. In other words, if the material employed is in 50 per cent condition we are required to assume that this labor which is appraised at \$600 per mile can be procured at a cost of \$300 per mile; and if the material is in 25 per cent condition, we are required to assume that this labor can be procured at \$150 per mile, and these assumptions are to be made in the face of the fact that the evidence shows affirmatively that the labor would cost \$600 per mile and that therefore neither of the assumptions could by any possibility be justified.

Seeing that it involves such impossible assumptions, how could the idea of thus depreciating this labor cost have originated? It arises from a failure to bear in mind what kind of value it is that we are here seeking to deter-

mine. It is another illustration of the confusion that inevitably arises from the failure to distinguish properly between replacement cost value and commercial value, and to bear in mind that it is the former and not the latter that we are here seeking to determine. Estimated on the basis of commercial value, a thing into which labor has entered may not be worth the combined cost of the labor and material or even of the labor alone; but that economic fact has no relevancy here. The entire theory of valuing on the basis of reproduction cost in a rate case is based on the assumption that the property in question is a necessity, and is therefore worth its cost and that cost is therefore the Alpha and Omega of our inquiry. When that cost has been determined the value of the thing, for the purpose of a rate case, has thereby been determined and the inquiry is ended. Whether the thing could then be sold in the market for the amount of its replacement cost is an entirely different question, and one which cannot influence the question of cost in any way. It will, however, help to illuminate the subject to recall to mind that the commercial value of a railroad property instead of influencing cost as this claim assumes, is, in reality, dependent upon and is determined by cost, because it depends upon the rates permitted to be charged and the rates which must be permitted to be charged, under the constitution, depend upon and are determined by the replacement cost of the property.

Defendants' Objection No. 5 (c) (8) relates to my refusal to depreciate Track Laying and Surfacing.

On further consideration of this subject, I can see no reason to change the views expressed in connection with my findings, nor anything to add thereto, except to emphasize the fact that the depreciation here contended for by defendants is not an actual but a theoretical depreciation, and to point out that as such it involves an impos-

sible hypothesis—the hypothesis that the life of the effects wrought by this labor item is co-terminous with the average of the lives of the five classes of physical material which are put in place by this labor item, viz: (1) Ties, (2) Rails, (3) Track-Fastenings, (4) Frogs, Switches and Crossings, (5) Ballast. That this is an impossible hypothesis is perfectly clear. The life of the effects wrought by the labor item obviously bears no relation to that of either of the physical items that would make it coterminous with the life of either of those items; much less does it bear such relation to the average of the lives of the physical items. That the effects of the work of track laying and surfacing depreciate there can be no doubt — those effects are constantly depreciating; but that depreciation is, as I have found in this case, constantly being overcome by further labor as is shown by the testimony, so that there is here no depreciation in fact. And it must be borne in mind that such actual depreciation is something entirely different from the theoretical depreciation proposed by defendants, in that amongst other things, the former is wholly independent of the conditions of the physical items as regards depreciation, while the latter is wholly dependent upon those conditions.

As regards actual depreciation, the effects of the labor item may be greatly depreciated, although the physical items are but slightly depreciated or not at all, and vice versa; but as regards this theoretical depreciation these conditions are exactly reversed; there the effects of the labor are depreciated according to the conditions of the physical items, although there is in fact no depreciation in those effects; and on the other hand, if the physical items were in 100 per cent condition there would be no theoretical depreciation in the effects of the labor, although there might be actual depreciation to the point

of zero. The very next day after the completion of track laying and surfacing, a washout might entirely destroy the effects of the work, and leave the physical items unimpaired. For this reason this theoretical depreciation is one which cannot be rationally entertained.

Furthermore, this theoretical depreciation involves a further impossible hypothesis for the reason that the collective effects of this labor item have no determinable period of life, and therefore none that could possibly be co-terminous with the average life of the physical items or with the life of anything else. The effects of the labor are all the time dying more or less rapidly, according to varying conditions of wear and weather, without any regard to the conditions of the physical items and are therefore all the time requiring to be kept restored, as they are in fact kept restored in this instance. This lack of any determinable period of life is one of the features that clearly differentiate the effects of the labor in constructing a mile of roadway from those of constructing a bridge. In the case of the bridge the effects of the labor employed have a determinable period of life, that period being co-terminous with the life of the entire bridge as a structural entity. When the life of that structural entity terminates, the life of each member as a component part of that entity terminates also. I say "as a component part of that entity", for it is only as such that its life then terminates. It may have a life as something else that does not terminate with the life of the bridge but continues on after the bridge as a structural entity has ceased to exist. Thus, any one of the physical parts of the structure may, when the bridge ceases to exist, still be in good condition and have a second-hand or scrap value for further or other uses, although as a useful element in that particular structure its life is gone. But with the effects of the labor item the case is entirely dif-

ferent. Those effects have no other life than that which pertains to the structural entity of the bridge and therefore have none that can survive the termination of the structure. It is clear, therefore, that the case of the mile of roadway differs fundamentally from the bridge and that in the former there can be no such theoretical depreciation as is claimed.

It may also be added that when the purpose of this valuation is taken into consideration, even where there is actual depreciation, it may be questionable to what extent such depreciation should be considered. If the results of the labor are greatly depreciated, or entirely destroyed by accident or otherwise without fault of the owner as in the case above supposed, it would seem irrational to say that the company should have a return only on their road in that condition.

*Schedule 12.—Fencing.*

I find the present value of the items in this schedule to be \$83,196 and the allocations to be as follows:

Freight .....	\$ 6,296
Common freight and passenger.....	76,900

There is no dispute between the parties on this schedule.

*Schedule 13.—Crossings, Cattle Guards and Signs.*

I find the present value of the items in this schedule to be \$12,603. The allocations are as follows:

Freight .....	\$ 913
Common freight and passenger.....	11,690

There is no dispute between the parties on this schedule.

*Schedule 14.—Interlocking and Signal Apparatus.*

I have adopted the defendants' valuation on this schedule. The amount of the same is \$800, and all of it is assigned to common freight and passenger.

*Schedule 15.—Telegraph and Telephone.*

I find the present value of the items in this schedule to be \$37,072. The allocations are as follows:

Freight .....	\$ 516
Common freight and passenger.....	36,556

There is no dispute between the parties on this schedule.

*Schedule 16.—Side Tracks.*

The parties differ on this schedule only as to unit prices. After a careful consideration of the testimony, I am not convinced that the complainant has proved the Riggs estimate to be the more accurate and I have therefore, adopted the lower figures of Mr. Hansel and have applied the same to the sidetrack mileage existing in 1913.

The allocations are as follows:

Passenger .....	\$ 7,713
Freight .....	391,244
Common freight and passenger .....	153,818
	<hr/>
	\$552,775

*Schedule 17.—Station Buildings and Fixtures.*

The inventories and appraisals of complainant's engineer, Mr. Riggs, and of defendants' engineer, Mr. Hansel, were surprisingly close on this schedule, the difference between the two consisting mainly in the value of new buildings constructed after the Hansel inventory. The



defendants, however, offered testimony of two Grand Rapids builders which tended to show that the valuations of both engineers as to this schedule were far in excess of the true values. Thereupon complainant, in rebuttal, offered the testimony of one Rowson, whose qualifications and experience as a builder and estimator, and whose testimony as to his examination and estimate of the values of the buildings in question was so convincing in substantiation of the Riggs estimate, that I could not but find that the appraisal of Mr. Riggs as to this schedule should be accepted.

I therefore found the present value of the items in this schedule to be \$143,489, with allocations as follows:

Passenger .....	\$45,844
Freight .....	38,502
Common freight and passenger.....	59,143
	<hr/>
	\$143,489

To this finding in my tentative report the defendants' Objection No. 9 is directed. It consists of two subdivisions, (a) and (b), as follows:

“(a) Passenger stations, at points where there is no exclusive freight building, or where the common agent makes his office in the passenger station and it is essential that the public doing freight business with the road use the so-called passenger station, are assigned in too large a proportion to passenger business, with insufficient separation to freight business.”

“(b) An insufficient part of the Marquette station and grounds is assigned to common and freight business, and no part of them is assigned to the Wisconsin business.”

"(a)" applies to passenger stations at Wellsburg, Eckerman, Newberry, Seney, Wetmore, Champion, Nestoria and Thomaston. The primary and principal use of the stations at the places above mentioned is for passenger service, but each one of them has in it an office used in some instances by the telegraph operator, and in some instances used also by the station agent in doing some of his freight business. Complainant proved the quantity of floor space in each of these stations occupied by the office, and in proportion to such floor space assigned a part of the value of the building to the common service. I adopted this assignment as correct, and considered it a fair division because, while there was some use of the waiting rooms by the public in sending telegrams, and some use by persons doing freight business with the agent, the part of the office used by the telegraph operator was in most instances a very inconsiderable part. The defendants suggest no method of making a different assignment. I do not feel sure that any different assignment is, within fairness, required, but I have concluded, in order that there may be no question about the matter, to increase the amount assigned to common of the stations above named by 25%.

At St. Ignace, Marquette, Negaunee and Ishpeming there are passenger stations with offices which are used by telegraph operators as well as by the employes engaged in selling tickets, and perhaps also these offices are occasionally used by the agent in transacting freight business. These places are all considerable towns, and each has a freight station with an office where the great bulk of the freight business is done. Because of the difference in the size of the places as compared with the group above treated, it would be manifestly unjust to increase the portion assigned to common by so great a percent as 25% ;

I think 10% is a liberal allowance. I have changed my apportionments accordingly.

Referring to the subdivision "(b)" of this objection, the second story of said station is used for a part of the general offices of the road, and the proportion of the value of the whole building represented by such use is, according to the only testimony on the subject (that of Mr. Cadarette) one-third thereof. Of this amount some part should be apportioned to Wisconsin. Such apportionment I have made on the basis of track miles, which gives to the Michigan value \$7,523. It appears that of this common portion of the building, a certain office, amounting to 14½% of the total office space, is used by the car accountant, and it is defendants' contention that as his duties are concerned almost entirely in keeping track of freight cars, such portion of the value should be apportioned to freight. I find that this contention is well founded, and that the proportion of such value would be \$1,091.

I have changed my valuation and apportionment of this schedule in accordance with the above views, with the result that I find the present value of the item "Property attributable to Michigan", to be \$141,904.

The allocations are as follows:

Passenger .....	\$43,864
Freight .....	38,502
Common freight and passenger.....	59,538
	<hr/>
	\$141,904

*Schedule 19.—Shops, Engine Houses and Turntables.*

It is the complainant's claim that this schedule should be valued on the basis of the Riggs' 1913 appraisal, while defendants contend that the Hansel 1912 appraisal should

be taken as the basis, and to reach the proper valuation, there should be added to the Hansel appraisal the additions to the property made in the fiscal year 1913, and there should be deducted any property valued by Hansel and abandoned in 1913. I have concluded to adopt defendants' method for the reason that I find no corroborative testimony which justifies me in taking the Riggs' higher values in 1911, rather than Hansel's valuation in 1912.

I find, however, on computing the additions and deductions, that the figures claimed by defendants in their brief are incorrect, both as to additions and deductions. I find that the total additions to the property in this schedule in 1913 were \$60,824, and the property in the Hansel appraisal which was abandoned during the year 1913 amounted to \$40,028. My deductions include the amount necessary to correct Hansel's mistake of including the property of the Sainte Marie Union Depot Company at its full value, when the complainant has only a one-half interest therein. Applying these additions and deductions to the Hansel total of \$166,185, I find the present value of the items in this schedule to be \$186,981, allocated as follows:

Freight	_____	\$ 10,961
Common	_____	176,020

Of these values, I have later assigned a portion to Wisconsin, in the manner and for the reasons hereinafter explained under the heading "Deductions from inventory by reason of property located in Michigan, but which is also used for Wisconsin operations".

*Schedule 20.—Shop Machinery and Tools.*

The parties are agreed upon the value of this schedule and its allocations as fixed by Riggs in 1913.

Freight .....	\$ 281
Common freight and passenger .....	98,987
<hr/>	
Total .....	\$99,268

The defendants, however, claim that the entire schedule should be divided between Michigan and Wisconsin. I cannot adopt this view, but I have apportioned to Wisconsin a portion of the shop machinery and tools in the Marquette shop, for the reasons hereinafter explained under the heading "Deductions from inventory by reason of property located in Michigan, but which is also used for Wisconsin operations."

*Schedule 21.—Roadway and Construction Tools.*

I find the present value of the items contained in this schedule to be \$12,832, all allocated to common. There is no dispute between the parties on this schedule.

*Schedule 22.—Water Stations.*

The Hansel valuation of this schedule is considerably higher than that of Riggs on the estimated cost of reproduction but his present value figures are about \$4,000 less than those of Riggs, due to his having a greater percentage of depreciation.

The testimony shows that each structure in this schedule was inspected by Riggs or his assistant, Anderson, in some instances by both, and the percentage of condition was determined for each station separately. On the other hand, Hansel figures a general percentage of condition of 70% on everything in the schedule, regardless of its age, or amount of service. It is clear that the method adopted by Mr. Riggs was a much more accurate one, and I have therefore accepted his present value figures.

I find the amount of the same to be \$72,422, all assigned to common.

*Schedule 23.—Fuel Stations.*

On this schedule I have taken the Hansel figures, which were lower than those of Riggs in 1913, and have added to the same the value of the additions made to the property in 1913, after the Hansel appraisal, and have deducted the property inventoried by Hansel, which was abandoned in 1913. The additions amount to \$11,696, and the deductions to \$3,184, making a net addition of \$8,512 to me made to Hansel's valuation of \$60,582.

The allocations of this schedule are as follows:

Freight .....	\$ 845
Common .....	68,249

*Schedule 26.—Docks and Wharves.*

I find the present value of the items contained in this schedule to be \$475,118. The allocations and assignments are as follows:

Passenger (foot-walk to ferry at St. Ignace) .....	\$ 715
Freight (ore docks) .....	392,980
Freight .....	56,842
Common freight and passenger (car ferry dock at St. Ignace) .....	24,581

In valuing the above items, I have taken the figures of Mr. Hansel as to Ore Docks Nos. 4 and 5.

It appears from the testimony, however, that although Ore Dock No. 4 was in use during the shipping season of 1912, its use was abandoned in the spring of 1913, when the new ore cars, purchased in part for storage purposes, came on the road and were put into use. Inasmuch as this dock was not in use during the whole of the fiscal



year 1913, the whole of its value cannot be included in figuring the return from the operations of that year, and I therefore, in making my valuation, include only two-thirds of the value of said dock as found by me, amounting to \$67,633.00, such value representing the proper proportion, according to the time in which such dock was in use during that year.

The item of \$56,842 is made up of the freight dock property at Baraga, Houghton and St. Ignace, the values of which are not in dispute, together with \$20,951 which I fix as the value of docks at Marquette, as follows:

Pier, trestle approach and a crib south of Baraga Avenue .....	\$4,061
This property is used for bank protection.	
Merchandise pier .....	9,558
Wharf, 18x420 feet, Hocking Bulkhead	
Coal Dock .....	882
Revetment .....	376
Coal dock-spear .....	4,422
Small dock .....	373
Freight warehouse .....	1,174
Coal dock office .....	105

All of the property last above valued is on or attached to the water front land in the city of Marquette, heretofore discussed by me under Schedule 1. All of it except the pier, trestle approach and crib first mentioned, and the coal dock office, are rented under the leases in that discussion referred to.

This land and dock property constitute the complainant's only connection with navigation on Lake Superior at Marquette. By far the greatest part of the coal used by the railroad is obtained by water over these docks, as well as practically all the coal for all the mines served by complainant's railroad and by the Lake Superior &

Ishpeming Railway, as well as all the coal domestically or otherwise used in the County of Marquette. On both these coal docks complainant has railroad tracks.

On the merchandise dock it has a track, and this dock affords complainant's only connection with the package freight boats which stop at Marquette.

If the lessees, or someone else, did not carry on the coal unloading business and maintain the merchandise dock, the railroad company itself would be compelled to do this business.

The approach to the ore dock by boat can only be preserved by complainant's owning very considerable land on each side of the dock.

Under these circumstances, and taking into consideration all the facts, I am clearly of the opinion that the land referred to, and these docks, are necessary for, and are in, railroad use, but that the situation is such that a concurrent use of portions of the property by industries whose occupation of the territory can be controlled by the railroad company is feasible and that the income from this rented property, being included in the railway earnings, as I have included it, lessens to the extent of the rents, the cost to the public of the use of this land, and these docks for railroad purposes.

As this rented dock property is only valued at \$20,951, and that amount is all allocated to freight, the question whether it should be included in complainant's inventory is not very material.

#### *Schedule 27.—Electric Plants.*

I find the present value of the items contained in this schedule to be \$8,855, all allocated to common. There is no dispute between the parties on this schedule.

*Schedule 28.—Miscellaneous Structures.*

On this schedule the Hansel figures are in excess of those of Riggs, and the defendants are agreed that the Riggs' figures should be taken. The allocations are as follows:

Freight .....	\$16,357
Common freight and passenger.....	103,367
<hr/>	
Total .....	\$119,724

*Schedule 29.—Engineering on Roadway and Structures.*

Mr. Riggs estimated this item by applying a percentage of 4% to schedules 3 to 28 inclusive.

Mr. Hansel estimated the engineering force which would be required to survey and construct complainant's railroad in Michigan and computed the probable expenses of such force. He arrived at a cost of \$275,000, to which sum \$20,000 was estimated as cost of acquiring right of way.

While the percentage method is a generally accepted method for computing this cost, the method adopted by Mr. Hansel seems to me more scientific. I have, therefore, adopted it, rejecting the item of \$20,000 for acquiring right of way. I have included the cost of surveying the road estimated by Mr. Hansel at \$50,000 for it is a cost of construction, in no way connected with the cost or value of the right of way, as clearly appears from his own testimony.

I have fixed the value of this schedule at \$255,000 and have assigned the same to passenger, freight and common, on the basis of the allocations of Schedules 3 to 28 inclusive.

*Schedule 30.—Locomotives.*

The valuations under this schedule are not far apart, and the Hansel valuation is the higher—the Riggs valuation in 1911, being \$443,304, and the Hansel in 1912 being \$466,852. But the second Riggs' valuation made in 1913 increases his former to \$702,342, an increase of \$259,038. This increase arose from the addition to complainant's equipment of 15 new locomotives, which were purchased in the early part of 1913, and came into service on the road in July or August of that year, and the only question in dispute is whether these new locomotives should be included in the inventory. The complainant's claim that as they were a part of the company's property at the date of the inventory and shortly thereafter were, and ever since have been, and in the future will continue to be, in actual use on complainants' railroad, they are a part of the property on which the complainants are now, and in the future will be, entitled to a return; and for this reason they insist that these new locomotives should be included in the inventory. The defendants claim that as these locomotives were not in use during any portion of the period which forms the basis of the return on which future earnings are to be estimated, they are no part of the property employed in earning that return, and therefore should not be included in the inventory.

In this dispute, each party is right in his premises, and therefore one or the other must necessarily be wrong in his conclusion.

It is perfectly true, as claimed by the complainants that these locomotives are a part of the property on which the prescribed rate will be required to pay a return; and it is equally true, as claimed by defendants that these locomotives were not a part of the property on which the complainants were entitled to a return in the year 1913 that is to be used as a basis for forecasting the future.

Which of the two opposing conclusions thus drawn from these correct premises is correct? The answer to this question depends on the purpose of the inventory. Now, the purpose of the inventory is to furnish the data of value necessary to determine what rate of return is to be expected from complainant's future operations.

This being so, it would seem at first blush that as the property in question is to be employed in the period that is to be forecast, it should, as complainants contend, be included in the inventory. But this contention fails to take into account the precise manner in which the future rate of return is to be estimated. It overlooks the fact that the future rate of return is to be estimated by first ascertaining the past rate of return and then basing the estimate of the future on the presumption that the future rate of return will be the same as it has been in the past. In making this estimate, it is the past *rate* of return (not the return itself) i. e., the relation of the particular past return to the value of the particular property employed in earning that particular return in the past period, that it is presumed will be the same in the future period to be forecast. In that future period, the value of the property employed may be different, and the return may be different from what either was in the past period, but the relation of the latter to the former, i. e., the rate of return, is presumed to be the same. From this it clearly appears that the value to be shown by the inventory is not the value of the property to be employed in the future period, but that which was employed in the past period—the value on which the rate of return to be found from past experience is to be computed.

As none of the locomotives in question were a part of the property employed in the past period, it follows that the defendants are right in their contention, and that the locomotives must be excluded from the valuation on

which the estimate of future rate of return is to be based.

This may seem on its face inequitable and it may be so in fact, as the locomotives are certain to be employed in earning the return to be realized in the future period, but if so, the inequity is unavoidable. It could not be avoided except by finding or assuming that this additional value in locomotives is required in order to earn in the future period the same return that was earned in the past period by a smaller locomotive value, and there is no evidence on which to base such a finding and no basis for making such an assumption. If any assumption were to be here indulged, it would be that, as the new locomotives were to constitute an addition to and not a substitution in the supply of locomotives already on hand, and as the return in the past period was earned by the latter supply, the presumption would be that the new locomotives were acquired in anticipation of an increase in business and that such increase of business would produce a corresponding increase in return so that the rate of return on the increased property value employed in the future period would be the same as the rate on the lesser value in the past period. I find the present value of the items in this schedule to be \$428,309; and that the same is allocated as follows:

Passenger .....	\$147,377
Freight .....	280,932

*Schedule 31.—Passenger Train Cars.*

Mr. Riggs' valuation of this schedule is less than Mr. Hansel's, and both parties accept the Riggs figure.

The only difference between the parties on this schedule is as to the method of apportionment of certain values to Wisconsin.

The method of apportionment used by both Riggs and



Hansel was to separate from the rest of the passenger train cars those cars which are used in trains running into Wisconsin, including sleeping cars, and a portion of the value of each of such cars was apportioned to Wisconsin on the relation of the passenger car miles made by each of such cars in Wisconsin to the total passenger car miles made by such car. The remaining value, as well as the value of all cars which do not run into Wisconsin at all, was assigned to Michigan.

Defendants' counsel argue for and use a different method of apportionment between states, but it seems clear that the method used by Riggs and Hansel is much more accurate, amounting nearly to an allocation, and I have adopted it.

I find the present value of the items contained in this schedule to be \$255,287. Of this amount, \$6,464 being the present value of the two official cars, is assigned to common freight and passenger, and the balance is allocated to passenger.

The allocations are:

Passenger .....	\$248,823
Common .....	6,464
<hr/>	
Total .....	\$255,287

*Schedule 32.—Freight Train Cars.*

The only dispute between the parties on this schedule is as to the inclusion of certain ore cars which were purchased after the Hansel appraisal, and which were valued by Mr. Riggs at their actual cost, \$377,200. The testimony shows that these cars were purchased and came on complainant's road at the opening of the ore season in 1913, several months before the Riggs' 1913 appraisal, and have been used ever since in complainant's freight business.

Inasmuch as these cars were not in use during the whole of the fiscal year 1913, their whole value cannot be included by me in figuring the return for that year upon the property invested. I have, therefore, included such cars at only one-third of their cost as shown by the testimony, viz., at \$125,733, that representing the proportion of the time during which said cars were in use in that year.

I find the present value of all the items in this schedule to be \$1,116,545, all allocated to freight.

*Schedule 33.—Miscellaneous Equipment.*

I find the present value of the items contained in this schedule to be \$59,972, all allocated to common. There is no dispute between the parties as to this schedule.

*Schedule 34.—Ferries and Steamships.*

The only property contained in this schedule is an undivided one-third of the property of a company known as the Mackinac Transportation Company, in which the complainants own one-third of the capital stock. The question here is whether for the purposes of this case, this one-third interest or any part of it should be included in complainant's inventory.

The answer to this question will depend, of course, upon whether the property in question, or any part of it, is employed in the passenger service of the complainant company to which the rate applies. Any property that is so employed must be included, and all property not so employed must be excluded.

The facts with regard to the Mackinac Transportation Company and its property are as follows:

This company is a corporation operating ferry boats across the Straits of Mackinac, between St. Ignace in the Upper Peninsula, and Mackinaw City in the Lower Pen-

insula. These ferry boats afford the only means of connection between the complainant's railroad, which is all in the Upper Peninsula, and the only railroads in the Lower Peninsula which reach the Straits, viz., the Michigan Central and the Grand Rapids & Indiana Railroads. The transportation company is controlled in equal shares by these three railroads by stock ownership.

In carrying on its business the transportation company deals in part with the public but principally with the three railroads. It deals with the public only in the transportation of passengers and a small amount of local freight between St. Ignace and Mackinac. As it is not under the railroad laws of the state, its passenger rates are not limited by the statutes which regulate railway fares. For the trip across the straits, it charges 50¢ or above 7¢ per mile. Aside from this passenger and local freight business, the transportation company has no dealings with the public, but deals with the three railroads exclusively. Its dealings with them consist in the transportation of their cars, both freight and passenger, with their contents, across the straits, and in compensation for that service, the railroad companies jointly furnish the property required for the performance of the service and pay all the expenses involved in operating and maintaining the property—the separate amount contributed by each company to this joint payment of expenses being in proportion to the freight carried for each.

From these facts, it clearly appears that all of the property of the Mackinac Transportation Company is employed in the freight service of the three railroads, and that no part of it is employed in the passenger service of the complainant company to which the prescribed rate applies; and therefore, that no part of that property should be included in any valuation of property

made for the purpose of determining the question whether the prescribed rate will yield a fair return upon the value of the property employed in the service to which the rate applies.

But the defendants claim, nevertheless, that the passenger earnings of the transportation company are to all intents and purposes passenger earnings of the three railroads, and should be so treated for the purpose of this case, i. e., that the net earnings or profits should be added to the total of the net railway passenger earnings as part of the passenger revenue realizable under the rate in question. This claim more properly arises and is made in connection with the subject of complainant's income but I deem it better to dispose of the entire subject of the transportation company at once. The claim is one for which I am unable to see any good ground. We are seeking to determine whether the rate in question will yield fair compensation for the use of the property employed in the service to which the rate applies, such compensation being a fair return on the value of the property so employed; and this claim would, in such inquiry, credit the rate, not only with the earnings of the property so employed, but also with those of other property not so employed.

The defendant's answer to this apparent inconsistency is a claim that the passenger revenue of the Mackinac Transportation Company is not earned entirely by the use of the property of that company but is earned at least in part by the use of some of the passenger equipment of the complainant. The basis for this claim consists in the fact that some of the complainant's passenger coaches are carried across the straits on the same boat that carries the passengers, and the passengers may, and usually do, occupy seats in the coaches during the voyage, although a cabin for their accommodation is pro-

vided on the boat. The question, therefore, arises what effect is to be given in this case to the fact that the complainant's passenger coaches are so carried and used. While the coaches are being so carried, are they being used in the passenger service of the transportation company or in that of the complainant company or in the service of both? And in either event, how is the case affected thereby? The utmost that can be claimed by the defendants is that while being so transported the coaches are wholly in the service of the transportation company, and are being used for their own benefit entirely—but even if this were the fact, I cannot see how that fact could possibly entitle the complainant company to the net passenger earnings of the transportation company or furnish any ground for treating them in this case as passenger earnings of the complainant company. If the transportation company, or any other outside party received the beneficial use of any of the passenger property inventoried in this case, the fair value of such beneficial use should be credited to passenger income in this case; but that such use by a third party would merely for that reason, entitle the complainant to the entire net earnings of the service in which the property was used, is impossible. In such case, the fair value of the use is all that complainants would be entitled to and that value would not be determined by such net earnings but by other considerations.

The question, therefore, is what, if any, amount should be credited to the passenger income of the complainants by reason of this use of their passenger coaches?

As between the passenger service of the transportation company and that of the complainants does the former derive from this use of the coaches of the complainant a benefit for which it is equitably bound to compensate the latter?

Why, and for whose benefit are these coaches thus carried across the straits? The purpose of this use of the coaches is plain; it is to increase the convenience and comfort of passengers and thereby to increase the volume of the passenger traffic. That it does increase the passenger traffic and thereby to some extent benefits the passenger traffic of both the transportation company and the complainant, there is no doubt.

Does the fact that this increase of traffic is secured by this use of the complainant's passenger coaches entitle the complainant to a portion of the passenger earnings of the transportation company? In order to do so, it must be found that the benefit derived by the Transportation company from this use is greater in proportion to that company's contribution to the expense of this extra service than is that of the complainant to its contribution to that expense. Such a finding it is impossible to make. It is impossible to determine either the extent to which either company is benefited by this increase, or the amount which either company contributes to the expense of this additional facility. But a general comparison of the relative proportions of each can be made and from such comparison it is plain to be seen that there is no ground for holding that the transportation company receives a greater benefit in proportion to its contribution than does the complainant company. There is no reason for thinking that the benefit received by the transportation company is any greater absolutely than is that of the complainant company, or that its contribution is any smaller; but, on the contrary, there is reason for holding that its contribution is greater. The contribution of the complainant is the use of the dead passenger coaches during the time occupied in making the round trip across the straits. This use of the coaches on the one hand involves no loss to the complainant as



the coaches would otherwise merely stand idle at St. Ignace during that time, and they suffer no damage from wear in this use as they are merely standing idle on the boat; and on the other hand, there is no direct advantage to the transportation company as they could carry the passengers just as well and more cheaply without the cars than with them. But the contribution made by the transportation company does involve additional cost. It consists in furnishing the boat-room, the steam power, and the labor required for the transportation of the coaches, which is very obviously greater in cost or value than the use of the coaches contributed by complainant.

My conclusion, therefore, is that there is no ground in this case for holding that the whole or any part of the passenger earnings of the transportation company should be treated as earnings of the complainant company; that none of the property of the complainant company is employed in earning the passenger revenue of the transportation company, and that none of the property of the transportation company is employed in the service to which the rate here in question applies, and therefore that none of that property should be included in any inventory made for the purpose of testing the validity of the rate in question; that under the agreement between the transportation company and the railroads, the passenger earnings of the transportation company are all devoted to defraying the expenses of the transportation company, which the railroads are obligated to pay in compensation for the carriage of their freight across the straits; that under the terms of that agreement, the practical effect of it is that all the property of the transportation company is employed in the freight service of the three railroads, and that one-third of it should therefore be included in the inventory of complainant's property, but should be allocated entirely

to freight. The complainant claims a valuation of \$216,500 on this schedule, while defendants' claim is \$210,000, the difference between the parties being that the defendants claim a somewhat greater depreciation on the boat Wawatam than was estimated by Mr. Riggs. I have adopted the defendants' figures of \$210,000.

---

To my conclusions with reference to this Mackinac Transportation Company and its property defendants' Objection No. 17 (a) is directed. They claim that the passenger earnings of this company should be included in the passenger revenues of the complainant.

This subject in general, and the passenger earnings of this transportation company in particular, I have so fully discussed that I do not care to add anything to what I have already said, except it be to reply to the claim that my treatment of this subject is inconsistent with my treatment of the Soo bridge and the Soo station. With reference to this the defendants are mistaken. They say, "We are unable to reconcile the determination of the Master to retain the Soo bridge and Soo station as part of complainant's operations, and to eliminate the passenger operations and net passenger earnings over the Mackinac Transportation Company".

The mistake which they here make is in saying, by implication, that I have eliminated the passenger operations and earnings of the Mackinac Transportation Company from *complainant's operations*, which is not the case. On the contrary, these operations are treated precisely as are those of the Soo bridge and Soo depot, and are included in complainant's operations precisely as are the latter, except that the operations of the former are entirely freight operations. The passenger earnings of the Mackinac Transportation Company are treated as

what may be called "Side earnings" of that company incidental to its freight operations, and are applied toward the payment of freight expenses just as the cash earnings of local package freight are so applied.

*Schedule 35.—Engineering on Equipment.*

Both Mr. Riggs and Mr. Hansel agree that to arrive at the true value of complainant's property, an allowance for engineering on equipment must be made and they agree that this element of value can best be computed as a percentage of the schedules affected, which are 30 to 35 inclusive, and that 2% is a reasonable percentage on that account. This percentage therefore, I have used in such a manner that it does not apply upon the value of equipment purchased in 1910, 1911, 1912 and 1913, because in fixing the value of the equipment purchased in those years, both engineers used the cost as shown by the books of the company, and presumptively at least, this cost included the item of engineering.

To this finding defendants' Objection No. 5 (c) (13) relates, and the claim is that

"the larger part of the present equipment was added during operation. There is no shown cost or expense for engineering thereon." If there was any such cost, it has been charged in operating expenses, and, under *Louisiana Railroad Commission vs. Cumberland Telephone Co.* (212 U. S., 423-25), it cannot be included in the value to be supported by rates."

The objection assumes that what we are here seeking to determine is the amount that it has actually cost the complainant as an operating road to acquire its present equipment, and that no cost of engineering on equipment should be allowed, because the engineering on the present equipment was presumably done by complainant's

own staff of engineers, and that the cost of it was therefore charged and included in operating expenses.

Such assumption is erroneous. The inquiry here is not what it has actually cost the company for engineering on their present equipment, but what it would cost anybody to reproduce this equipment, and on that question all the engineers agree that on such reproduction an engineering charge on equipment of two per cent, of the cost of the equipment would be a reasonable allowance for that item.

Unless this case is being tried on a theory that is fundamentally wrong, I am unable to see how the question whether the cost of engineering on the company's present equipment was charged to operating expenses is of any consequence in this case.

In this view I am of the opinion that I was in error in not applying the percentage, as did the witnesses named, to the equipment purchased in 1910 to 1913, inclusive, and I now apply it to schedules 30 to 33, inclusive, in their entirety.

The allocations will follow those of the schedules on which this item is computed.

#### *Schedule 36.—Terminals.*

The only items contained in this schedule are two properties at Sault Ste. Marie, Michigan, viz: the property owned by the Sainte Marie Union Depot Company and the property of the New Jersey Bridge Construction Company.

There is no dispute between the parties that one-half of the property owned by this depot company devoted to railroad use, is used by the complainant, and should be included in this valuation. The situation is fully explained heretofore in my findings under the heading

"Lands in Chippewa County". The valuation under this schedule is the property other than land.

Mr. Riggs' method of arriving at the value of complainant's interest in this property was to value different items comprising the same, as shown by his inventory, to add thereto an engineering charge of 4% and then to assign one-half of the total value to the complainant.

Mr. Hansel's method was to value the separate items and then add 20% to cover what he calls overheads.

If, to the amount of the Hansel appraisal, less his land values, and his overheads, there is added the value of the increased trackage in this terminal in 1913 as compared with 1912, the Hansel valuation would be slightly greater than that of Riggs.

I have taken the Hansel valuation, reduced as above. To this I have added a 4% engineering charge, for the reason that there is no evidence other than that of Mr. Riggs showing the proper charge for engineering and the amount which this percentage gives seems to me very reasonable.

Defendants, through some oversight, assign the whole of this terminal to passenger service, but Mr. Riggs' appraisal, together with his later testimony, changing the allocation of two of the tracks shows that the allocations should be as follows:

Passenger .....	\$22,006
Freight .....	6,906
Common freight and passenger .....	11,091
 Total .....	 \$40,003

The New Jersey Bridge Construction Company is a corporation owning and operating the International Bridge between the United States and Canada at Sault

Ste. Marie. The stock is owned by the complainant jointly with the Canadian Pacific Railway Company and the Minneapolis, St. Paul and Sault Ste Marie Railway Company, the complainant's interest being one-fourth. The bridge company has some small revenue obtained from the transportation of passengers over the bridge and from charges made for allowing the stringing of telephone wires, etc., on the bridge. The complainant's proportion of these revenues is included in its revenue account. The expenses of operating the bridge are divided among the owning companies in proportion to the business received over the bridge by each company respectively. The complainant's proportion of these expenses is included in its expense accounts. The complainant does not operate any freight or passenger trains over the bridge, but the same is used as a facility for getting freight and passenger business from the Dominion of Canada. I have therefore included the interest of the complainant in this property in my valuation, and have allocated the same to common freight and passenger, but have assigned it entirely to the interstate business.

I have taken the Hansel valuation of complainant's interest, except that in place of his overhead charges of 20%, I have allowed only an engineering charge of 4%, and I find the present value of the interest of the complainant in the property to be \$60,271.

Counsel for defendants arrive at a different valuation, obviously because they use, in making their computations, a printed comparison of the different appraisals, prepared for the use of court and counsel, in which there was a mistake. My figures are based on defendant's Exhibit 15, Mr. Hansel's appraisal. This bridge company owns no land.



*Schedule 37.—Contingencies.*

The subject of Contingencies in a rate case presents difficult questions. A contingency is defined as "a contingent event", and a contingent event is an event that is liable to occur but is not predeterminable by any rule or law—an event resulting from an agency or agencies the operation of which is uncertain.

As used in a railroad rate case, the word "contingency" means the uncertain and unforeseeable events that are liable to occur in connection with the construction of a railroad property and which, if they do occur, will involve expenditures or costs in addition to the foreseeable, certain costs which can be definitely estimated. It includes, also, when used in a rate case, all liability of error either in measurements, estimates or otherwise.

In dealing with the subject of contingencies, as it arises in making estimates of probable costs, it is universally recognized as a fact, demonstrated by experience that such unforeseeable events are always liable to happen and that the amount of costs, as shown by estimates of the foreseeable costs only, is therefore always liable to be increased by such unforeseeable happenings. In consequence of this, it has become the general practice of engineers in making estimates of the cost of work to be undertaken, to first make their estimates of the foreseeable costs, and then make an allowance for the unforeseeable costs, and add it to the former. That these contingent costs should, in ordinary prudence, always be taken into consideration and that an estimate of the cost of a proposed work which includes a proper allowance for such costs will be more nearly correct than it would be without such allowance, there is no room for question, either in a rate case or elsewhere. The sole question in any given case is what shall be the amount of that allowance; and that question is one of extraordinary difficulty.

As the amount which it is required to fix is dependent upon future events that are not predeterminable by any rule or law, it is itself incapable of definite predetermination or of being estimated by any rule or law except by approximation based on the law of average. The only way in which it can be estimated is by taking the results of experience and applying to them the law of average—that is to say, by taking the average proportion which the contingent costs actually incurred in past operations bear to the entire cost of such operations and basing the estimate of future contingent costs on the assumption that that average will be maintained. This I have done in what follows:

Passing now to the question as to what, if any, amount should be allowed for contingencies in this case—that question must, of course, be determined from the evidence, i. e., it is to be determined on the basis of experience as that experience is shown by the evidence.

That evidence consists of the testimony of six witnesses, who testified as experts in engineering—five of whom testified on behalf of complainant, and one on behalf of defendants. All of those witnesses agreed in recognizing the liability to additional costs arising from contingencies, and also the need of making an allowance for such costs—the only difference between them being as to the amount of the allowance and the manner in which it should be arrived at.

The evidence on the subject is of two kinds, specific and general—specific as to the amount that has been found proper to be allowed in other cases, and generally—both the specific and the general testimony being based upon experience and both being expressed in a percentage on all or a great part of the other costs. The specific testimony on behalf of complainants is as follows:

Mr. Riggs, the complainant's chief expert allows for

contingencies a total of \$918,429 which would equal an average percentage of 8.8% on schedules 3 to 28 inclusive. It was not, however, arrived at by such application of that percentage but by applying different percentages to different schedules.

Mr. Young, chief engineer of the Lake Superior and Ishpeming Railway considers Mr. Riggs' allowance too low (Record 925-27), and thinks that the allowance for contingencies in the reproduction cost of this property should not go below 10% of all the construction costs. (Record pp. 924 and 1899.)

Mr. Loweth, chief engineer of the Chicago, Milwaukee and St. Paul Ry. also thinks that the Riggs' estimate is too low; also that contingencies cannot be placed on specific items; and that in making an estimate of the fair reproduction cost of the South Shore road, it would be conservative to put a contingent item of 10% on the entire cost, except overheads. (Record pp. 2780-81.)

Both Mr. Young and Mr. Loweth testified from particular experience in the construction of railroads in the northern peninsula of Michigan, as well as from their general experience as engineers.

Professor M. E. Cooley of the Michigan University also fixes 10% as the percentage that he would apply for contingencies to a property like the South Shore.

This constitutes the complainant's specific testimony as to the proper amount to be allowed for contingencies in this particular case.

The general testimony on behalf of complainant is that of the witnesses Riggs, Young, Loweth, and Cooley, above named, all of whom testified in effect that from their experience as engineers, they had found that the contingency costs in railroad construction of this character would run from 10% up of the amount of the other costs, meaning construction costs; and also the testimony of Mr. Hoag-

land, the chief engineer of the Great Northern Railway, who testified that according to his experience the contingency costs would run from 10 to 15% and that in appraising the reproduction cost of a railroad, the contingency item has usually been taken at about 10%. This witness testified as follows:

"I have made a special study to determine how estimated cost before the performance of the work compares with actual costs. In this work I went through the books of the Great Northern showing additions and improvements to the property from 1903 to 1907. All our estimates for additions and improvements are made up on what we call an authority for expenditure blanks so as to secure the approval of the executive officers before the money becomes available. I found that during these five years, the total estimated costs of additions and improvements was \$25,223,738.65 and the actual cost of the work was \$29,096,067.47—the increase over the estimate being 15.35 per cent. Those estimates were made with the intention of showing as nearly as we could, what the work would cost, and each one was itemized in detail and covered all classes of work and in locations with which the company and its engineering officers were as familiar as they could become by construction of the existing road." (Record 3125-6.)

As explaining and illustrating the nature and need of a contingency allowance, the following is taken from the testimony of Mr. Loweth, who had had a large experience in construction work as chief engineer of the C. M. & St. P. Railway Company:

"The item of contingencies in the cost of reproduction of a given property should include those items

of cost, whatever their character, that could not be seen in making an inventory of the property, or which might be overlooked or by error or oversight, omitted from such inventory and by the possible error in the unit cost that might be taken in making the valuation. The contingencies in making an estimate of the cost of a property to be built would cover those things which, due to the haste in which the matter was investigated, had been overlooked or which from the nature of the case could not be foreseen and provided for. I think that there is very little, if any, difference in the allowance for contingencies in the case of making an estimate of reproduction of an existing property and in making an estimate of the cost of property that was proposed to be built, for the reason that as we go over a completed property there are always some elements of cost that are not apparent. It is impossible to carry out any large piece of construction without accidents, accidents of such a nature that they involve a loss of life and property. Those losses enter in as one of the contingent items. In going over a completed property it is impossible to tell whether anything of that kind did happen or not, but from our experience in reconstruction we know that they certainly do happen."

Mr. Loweth then mentioned certain things that happened in his own experience in the construction of the line built by his company to the Pacific Coast; as, for instance, the cost of making trails and roads in order to make surveys and to get the contractors' men and materials in; extra expense for freight, due to having to route construction materials over other roads, caused by delays in grading so that it was impossible for him to take such materials over his own road; building temporary bridges to enable the grading contractors to cross streams with

the track; building a tunnel at great expense, and then finding that the material was so yielding that it had to be made into an open cut; at least one severe flood which took out all the temporary bridges and a part of the bridges in course of construction for a distance of seventy-five miles; and a large number of fatal accidents to men.

After giving this experience, Mr. Loweth further testified as follows:

"In my judgment it would be conservative to put the contingent item of ten per cent on the entire cost (of the physical items), in making an estimate of the fair reproduction cost of the D. S. S. & A. road in the Northern Peninsula of Michigan. While the contingent amount of some items might not be as large as ten per cent, on others it might very readily be much in excess. That would not include ten per cent on the cost of organization and legal expenses and interest and engineering and the like, but upon the physical items. In my opinion the ten per cent would be an average of all items and not the amount of contingencies applicable to each item. I think it is universal in making an estimate for new work to allow for contingencies, and it has been our practice to add ten per cent and to add ten per cent after we had taken unit prices that in a measure made some allowance for the same."

"I am as confident, as I could be of anything, that has not occurred, that in the reconstruction of the South Shore road, we would have casualties, accidents, which would involve injury to persons and property, which would be contingent items such as those I have mentioned, for work of that character which would extend through three or more seasons. It is also quite sure that there would be contingent



items in the way of floods. There would be contingent items in respect to classification. I doubt not that there is considerable material, the exact character of which would not be evident on a superficial inspection of the property. I do not see how that extent of railroad could be built without involving diversions in the highways, in farm crossings, and in diversions of streams. Those contingent items would surely occur. There would be contingent items in connection with the construction of the road over or under or across other railroads, electric and steam; due to the crossing of telephone and telegraph wires, which would have to be changed; due to the construction in the cities in which paving would be disturbed, water works pipe, or sewers or things of that kind. There would be other contingent items that would be more or less of the general character of those I mentioned. In my judgment there is a reasonable probability that these or a certain proportion of them will occur in every railroad that is constructed. The percentage would vary according to the weather conditions, season of the year and character of the country through which the road was built. The contingent items would be smaller if all conditions were favorable, such as casualties, floods and things of that character. The item of farm crossings, highway crossings, of pavements in cities assume the passing through of a settled territory. If the territory is sparsely settled, the possibility of those items and the amount and percentage of them would be smaller, and for exactly the same reason, other contingent items would be more. There is, as I remember the country, a large proportion of swamp land and soft land, the surface of which is soft and yielding, and there would be a more than

usual contingent item in the increase of earthwork on that account. The country traversed by the South Shore Railroad is not as accessible for the getting of supplies and men as a similar length of railroad would be in many other sections of the country, and the difficulties of getting labor and holding labor and getting supplies in, would be enhanced over and above what it would be in most any other section of the country, anywhere within a radius of 500 miles, or a thousand miles."

This general testimony on the subject of contingencies introduced by complainants is uncontradicted; and not only so but it is confirmed so far as it relates to new work by the defendants' witness Mr. Hansel, who testified as follows:

"Q. Your contingency in round figures is \$479,000; your total is 15 and a half millions—less than four per cent considerably. Did you ever know a railroad engineer in estimating the cost of a road which was actually to be built, as distinguished from a reproduction, that did not estimate it as high as ten per cent?

A. No, I should estimate higher.

Q. Higher than ten per cent?

A. I should estimate higher than I would ordinarily; sometimes go as high as 15 per cent.

Q. That is the practice, isn't it, to go from 10 up?

A. I think so. Of course they were not in a position to analyze as closely as I was in this case. (Record 4942.)

Q. Let me get this then. There is a customary practice, is there not, in engineers' offices as to contingencies for work which is to be done?

A. Yes.

Q. And the minimum is 10 per cent on railroad work—the minimum of the total, ten per cent of the total?

A. Yes, I should say so.

Q. Covering lands and everything else?

A. Yes, I should say so." (Record 4947.)

On behalf of the defendants, their chief expert witness, Mr. Hansel, makes an allowance for contingencies amounting to \$479,735, being about one-half of the amount allowed by Mr. Riggs. This amount is an average of 5.09 per cent of the Hansel valuation of the schedules which give the Riggs average of 8.8. It was not, however, arrived at by such a percentage application, but by an allowance of 10% on certain schedules, viz: Schedules 3, 16, 20, 29 and 38 to 42 inclusive.

This allowance with Mr. Hansel's explanation of it, constitutes the defendant's testimony on the subject of contingencies. And it is seen that it is all specific, i. e., specifically directed to the question of the amount to be allowed in this particular case; and that on that question, it is only to the effect that the amount named is to be spread on the schedules named in the percentages mentioned, because the witness considers his valuations of those schedules too low to the extent of the respective amounts to be applied to them for contingencies. No testimony is offered by defendants to show that this allowance is based on or is in harmony with, general experience. It stands alone and as evidence it has no direct bearing on the question as to the proper amount to be allowed in this case. Its primary and direct bearing is solely on the question as to the amount that should be added on account of contingencies to the Hansel valuation of the other items and as that amount depends entirely on the correctness of the Hansel valuation, it would

bear on the main question only in case that valuation were adopted as the correct valuation.

What is here said of the probative effect of this Hansel testimony is equally true of the Riggs' testimony insofar as his testimony relates specifically to the amount that should be added to his valuation on account of contingencies. The amount of the allowance for contingencies must be determined not on the testimony of either Riggs or Hansel, as to the amount to be added to his valuation, but on the basis of experience as shown by all the testimony and the law of average. This basis, both Mr. Hansel and Mr. Riggs must be presumed to have employed in determining the amount that he states should be added to his valuation on account of contingencies, and to have supplemented it by a due consideration of the care and accuracy with which his valuation was made up. It is on the same basis of experience as that experience is shown by the evidence, that the court is to determine the amount of the allowance, giving such weight as seems proper to the two facts that Riggs thinks that \$918,429 should be added to his other values and that Hansel thinks that \$479,735 should be added to his other values.

The question to be determined by the court is not what amount should be added for contingencies to the Riggs valuation or to the Hansel valuation, but what amount should be included in its own valuation, in view of the results of experience as shown by the testimony, including that of Riggs and Hansel.

Upon this question, the evidence is practically unanimous that the contingent costs in producing and reproducing the South Shore property would amount to 10% of all the other costs, meaning construction costs, and that 10% would be a proper allowance in estimating the reproduction of the South Shore property. This is testified to by all of the five engineers called by the com-

plainant and there is no testimony to the contrary. True, Mr. Hansel says, in effect, that the other costs of reproducing this property can be so accurately estimated that a percentage of 5.09 on the other costs would be a sufficient addition to be made for contingencies, but this is only because he thinks he, himself, can make such accurate estimate and has done so.

From the foregoing evidence, I find that in the reproduction of complainant's property, there are costs which are certain to be incurred for certain purposes which can be foreseen, and the amount of which can be estimated with reasonable certainty; that according to universal experience, the total cost of reproducing the property will exceed the total of the costs thus foreseen and estimated by reason of additional costs arising from mistakes and unforeseeable happenings, that these additional costs are by their very nature such that their amount cannot be foreseen or estimated in the manner and with the degree of certainty that the foreseeable costs can be estimated, but that they can be estimated on the basis of general experience and the law of average; that according to such experience these additional unforeseeable costs usually amount to, on the average, from ten to fifteen per cent of the total of the estimated costs of Schedules 3 to 28 inclusive, that, according to the weight of evidence in this case, the amount of such unforeseeable costs to be estimated on the reproduction of complainant's property would be ten per cent of the total of the estimated costs of Schedules 3 to 28 inclusive, amounting to the sum of \$782,306; that although an allowance of this amount would be supported by the weight of evidence I do not make such allowance, but in view of the uncertainty pertaining to the subject, and on the principle of resolving all doubt in favor of the defendant, I have decided to allow for contingencies the sum of \$400,000, the same being

little more than one-half of the amount last named and more than \$79,000 less than the amount allowed for contingencies by the defendants' expert, Mr. Hansel.

I should not feel justified in making this allowance less than the figures fixed by Mr. Hansel were it not for the fact that it is claimed by defendants that certain items of property were valued by both Riggs and Hansel at the cost thereof as shown by the complainant's books of account, and insofar as any such property was bought, acquired, or created so recently that price or value may be deemed to be the same as when valued by the engineers, I think no contingency should be applied. I consider my deduction of more than \$79,000 ample to cover such items of property.

This allowance is made against objections from both parties, from the complainant on the ground that it is much smaller than it should be according to the weight of evidence, and from the defendants on the ground that no allowance at all can be made for contingencies in a rate case, and possibly upon the ground also that it is too large, but probably not on the latter, as my allowance is less than the amount which is shown to be proper by the only testimony introduced by the defendants on the subject.

Having thus determined the total amount to be allowed for contingencies in this case, it is unnecessary to consider the schedules separately with reference to it and undertake the task of determining what part of the total amount may be regarded as applicable or attributable to each. That task is very difficult, and is considered by some engineers impossible of accomplishment. I think it is impossible, at least to some extent, and I find that even if possible in some cases, it is wholly impossible in this case, for the reason that there is no testimony on which it can be done. The only testimony that applies a conting-



In the foregoing discussion I have arrived at the amount which the weight of evidence shows should be allowed for contingencies in estimating the value of complainant's property. It now remains to consider whether the amount thus shown by the evidence is shown with sufficient certainty to entitle it to be accepted in a rate case.

The defendants claim that it is not, and in the nature of things cannot be so shown; that in a case where confiscation is claimed, as the question is merely as to the value of existing property, there is no room for uncertainty either of inventory or of construction and therefore no room for contingencies; also that if there are contingencies, the errors involved are as likely to be above as below the true value.

This objection, although on its face plausible, involves I think a misconception of the exact nature of the claim for contingencies—a misconception growing out of the fact that the claim for contingencies as mentioned in the inventory constitutes a distinct schedule in consequence of which the objection assumes the claim for contingencies to be a separate and independent item of the inventory to be allowed or disallowed in whole or in part, which assumption is erroneous.

The claim is not a separate item of credit in the inventory but a part of the estimated cost of the entire property, and the form in which it appears, i. e., as a contingency item is a part of the method employed in estimating the entire cost. As it is set forth in the respective inventories of Riggs and Hansel, the contingency item is merely an explanation by the witness who made the inventory and appraisal, of the method by which he reached his total of quantities and values. The witness says in effect that in making his inventory he made accurate measurements and mathematical calculations as far as

possible, but that it was not possible by these measurements and calculations to estimate with accuracy the reproduction cost of the property and its present value, and that for that reason his inventory and appraisal is incomplete and does not fully and correctly set forth the property and its value; that in order that it may do so, it is necessary to add to his other estimates a sufficient amount to cover these uncertainties which cannot be definitely known beforehand, but must be estimated, and that his estimate of the amount to be so added, based on his experience as an engineer, and that of engineers generally, is the amount which he mentions.

It is seen therefore, that his statement relates entirely to the correctness of the inventory and estimates of cost made by the witness offering the inventory; that it is merely a part of his testimony and is to be treated accordingly; that to reject it and take his other estimates as adequately expressing the entire reproduction cost would involve a finding that the witness' other estimates are adequate and correct in the face of his own testimony that they are not so. Such a finding would certainly be very curious, and one for which there is no support in the testimony. In fact, it would be on its face contrary to the testimony and therefore impossible.

The contingency allowance is so essential a part of the witness' testimony as a whole that it is impossible to separate it from the rest and reject it, and at the same time take the other estimates as adequately expressing the value of the whole property.

Those remarks apply equally to the testimony of Mr. Hansel and Mr. Riggs, each of whom makes a contingency allowance; and as theirs are the only inventories and appraisals in the case, it is hard to see how it is possible to make a valuation of the property on the evidence without making an allowance for contingencies.

It is true as claimed by defendants, that the estimates of quantities and values in an inventory may be too large as well as too small but the probabilities in that regard are not necessarily equal, and whether they are greater on the one side or the other, or wholly on one side, will depend on how the estimates are arrived at, that is to say, will depend on how the appraiser deals with the inevitable uncertainties of his task. In dealing with these uncertainties he may take either of three courses, viz: (1) He may undertake to allow for all uncertainties in making his estimate of each item; in which case it would presumably be true that his estimates would be as likely to be too large as too small, or (2) he may instead plan to make each estimate large enough to cover all chance of its being too small, in which case all the uncertainties would be thrown on the side of its being too large, and would require that the estimates be reduced by a percentage deduction, or (3) he may make each estimate small enough to cover all chance of its being too large, thus throwing all the uncertainties upon the other side, and requiring that the estimates be increased by a percentage addition.

Of these three courses, both of the engineers in this case have chosen and followed the third, and this, it clearly appears from the evidence, is the invariable practice of engineers in general.

It will thus be seen that the objection to a contingency allowance in this case is in reality an objection to the method of valuation and of proving value, which is recognized as proper and adopted by both the parties in this cause. The substance of the objection is that proof of value, which involves the inclusion of an allowance for contingencies is not sufficiently certain to meet the requirements of a rate case. It is not claimed that such proof of value is not sufficient to meet the requirements

of an ordinary civil case, but that it does not prove value with sufficient certainty to overcome the presumption of constitutionality in a rate case, i. e., the presumption on this particular point that the legislative judgment of value was correct. The precise question therefore raised by the objection to a contingency allowance is whether value proved in this way is proved with sufficient certainty to entitle it to be accepted as the true value, although the legislative judgment of value presumed to have been found may have fixed a different value.

The answer to this question is found in the preceding discussion of the burden of proof and its requirements in this case. It is there seen that the presumption of the constitutionality of a statute is a rule or principle of inter-departmental comity, observed by the courts in testing the constitutionality of a statute, the rule being that as it is the duty of the legislators to carefully consider the constitutionality of every proposed statute before enacting it, and to refrain from enacting it so long as there is any reasonable doubt in their minds of its constitutionality, the courts will presume that the legislators performed that duty and found beyond a reasonable doubt that the statute was constitutional; and that the courts will not overrule the legislative judgment in that regard until satisfied in like manner beyond a reasonable doubt that the legislative judgment was erroneous. In other words, the principle is that the courts will accord to the legislative judgment the same degree of respect that it was the duty of the legislature to accord to the constitutional limitations by which their powers are circumscribed.

Applying this principle to the case before us, in which the correctness of the legislative judgment is in question and where the question is whether a certain amount should be allowed which amount it is in the nature of

things impossible to determine with certainty; can the court find the legislative judgment erroneous or is the court by this rule of inter-departmental comity required to refrain from forming and giving effect to its own judgment merely because of the uncertainty in the nature of the subject on which the judgment is formed? Must the court, because of such uncertainty defer to the legislative judgment and render it immune from judicial criticism although that judgment is subject to precisely the same uncertainty as is the judicial judgment?

The answer must be that the legislative judgment cannot thus become immune; that the legislative judgment can be no more certain than the nature of the subject will permit, and therefore can be no more certain than the judicial judgment on the same subject, and it therefore is subject to reversal by the latter precisely as are legislative judgments where no such uncertainty exists.

From all the evidence in the case, I am convinced beyond a reasonable doubt, not that the \$400,000 which I have allowed for contingencies is the exact amount of the additional costs that would be incurred in the reproduction of complainant's railroad resulting from contingencies, but that that amount is a fair and conservative estimate of the minimum of such additional costs, arising from contingencies not taken into account in the other estimates.

*Schedule 38.—Legal Expenses during Construction.*

It appears by undisputed testimony in this case that to arrive at the true reconstruction cost and the true present worth there must be an allowance made for legal expenses during construction. And it appears from a clear preponderance of evidence that this element of cost can best be computed upon a percentage of Schedules 3 to 37 and that one-half of one per cent is a reasonable per-

centage to be applied. I have applied this percentage to Schedules 3 to 36 inclusive only, and in such a manner that it will not apply either to the equipment acquired in 1910, 1911, 1912 or 1913, or to any other additions or betterments made to complainant's property during 1912 or 1913, because to a certain extent in valuing this added property the engineers used the cost thereof as shown by the records of complainant, and it is perhaps to be assumed that any legal expense was included in such cost.

I find the value of this item to be:

Passenger .....	\$ 2,529
Freight .....	16,107
Common .....	32,804
<hr/>	
Total .....	\$51,440

To the foregoing finding under Schedule 38, the defendants make objection (Objection No. 5 (c) (15) to the effect that legal expenses during construction should be estimated on the basis of actual legal expenses during operation after construction, and that, thus estimated, they would be much smaller than my allowance for that item.

Upon the question whether they should or should not be so estimated, there is no direct testimony; nor is there any testimony as to what the amount would be when so estimated. All the testimony on the subject estimates the amount on the basis of a percentage of costs, which of course bears no relation to legal expenses during operation, and necessarily negatives the idea that they should be estimated on the basis of the latter.

And it seems to me entirely clear that the witnesses are right in making their estimates on that basis, rather



than on any amount of legal costs, actual or estimated, during the period of operation.

I can see no relation or analogy between the legal expenses during and in connection with the construction of a property, and those during a similar period of operation of the same property which would make one the measure of the other.

This view is strongly confirmed by the fact appearing in the testimony that in all the state appraisals mentioned, being six in number, among which was the State of Michigan, the appraisal for the state estimated this item on the basis of a percentage of costs, and not only so, but, so far as I can judge, used the same or a higher percentage than that testified to here and on the same schedules.

It is true, as defendants claim, that Mr. Riggs expressed the opinion that the legal expenses of a railroad during operation would probably be greater than the legal expenses during construction, but when his attention was challenged to the actual legal expenses of complainant from 1910 to 1913, inclusive, he repudiated the idea that such expenses could possibly be used as a basis for determining legal expenses during construction. (R. p. 1586.)

The allowance made by me is, I think, fully supported by the weight of evidence, but in view of the inherent uncertainty of the subject, I have decided to adopt the estimate of defendants' expert, Mr. Hansel, of \$50,000.

Inasmuch as I no longer use a percentage in the calculation of legal expenses, I make no deductions on account of recent equipment acquired 1910 to 1913, inclusive, or on account of additions and betterments made during those years, especially as I am inclined to think I was in error in the theory on which I originally made

those deductions, as I have explained under Schedule 35, Engineering on Equipment.

This amount I have apportioned between passenger, freight and common on the basis of the allocations of Schedules 3 to 36, inclusive, which results as follows:

Passenger .....	\$ 2,360
Freight .....	15,740
Common .....	31,900

*Schedule 39.—Organization, Administration and General Expenses during Construction.*

All the witnesses who testified on the subject agree that some allowance on account of organization, administration and general expenses during construction is necessary to be made to arrive at the reproduction cost and therefore the true present value of complainant's property.

Mr. Hansel, employed by the defendant, fixes the amount of this allowance at \$100,000.00, giving no other reason, so far as I can find from the testimony, than that that appeared to him to be a sufficient amount.

Mr. Riggs, for the complainant, allowed on this account 2% on the value of Schedules 3 to 37 inclusive. Other testimony in the case confirms this allowance as conservative. On these schedules as I have found their value, this percentage would make the amount considerably above \$200,000.

The allowance made by Mr. Hansel is less than 1% of my valuation. I think it too small, and I fix \$125,000 on account of this schedule, which amount, under the testimony, is extremely conservative. It is less than  $1\frac{1}{4}\%$  of the schedules affected, and will makes the amounts for this item and legal expenses together less than  $1\frac{3}{4}\%$ , which percentage the weight of the testimony and all the

authorities I have been able to find indicate is a conservative allowance.

This amount I have apportioned to passenger, freight and common, on the basis of the allocations of Schedules 3 to 36, inclusive.

*Schedule 40.—Interest and Taxes during Construction.*

All the witnesses in this case agree that one of the items of construction of any railroad property is the interest on money which is expended during the period of construction, while no return is being received from the operation of the property, and that there must be added to the appraisal an amount sufficient to take care of this construction expense. Without this testimony it seems to me too clear for argument that interest during construction is as much a part of the cost and value of any property as the material from which it is constructed.

In *State Journal Ptg. Co. v. Madison Gas & Electric Co.*, 4 Wis. R. R. Com. Repts., 501 (at 542), I find this statement:

“The element of cost by reason of interest during construction is one which cannot be escaped. It is present to some extent, no matter what the method of financing the construction may be. From the time an investment for construction is made until the completion of the entire plant enables that investment to become active as an integral part of a working whole, there is the element of interest, for that investment is necessarily involved and is necessarily idle until the completion of the plant to a working point. The fact of interest, like the fact of depreciation, is present, no matter what method be employed for the financing of it. This is as true when the money is furnished by the owners as when it is bor-

rowed by them. The theory upon which such interest rests is sound, and remains so even in isolated cases where the investors may decide to charge no interest and choose to donate the same to the consumers in the way of lower charges for the services rendered. Even if the company let a contract for the complete construction of a plant, to be paid for in no part until wholly completed to the operating point, interest cost would come in as a part of the contract price, even though not expressly set forth. In that case the contractor would have to ask a higher price to cover the interest cost. Some additional compensation is needed for the investment made by him during the progress of the work and which is necessarily idle until the completion of the plant. Should the company itself construct the plant and be able to arrange to do the entire work on credit—gathering the material, machines and equipment, labor and everything additional needed on credit, to be paid for at the completion of the plant at the point of operation—the interest cost would enter nevertheless in some form in the entire cost of construction.”

Mr. Riggs, the engineer employed by the complainant, was of the opinion that interest during construction should be allowed on every construction item, including land. He estimated the time of construction as three years, and allowed interest on the total of the Schedules 1 to 38 inclusive, for one-half that period of time. This method of computation was approved by several of the other engineers who testified in the case, and it is the method most commonly used.

Mr. Hansel, the expert engineer employed by defendants, undertook to estimate the time during which the money required for each construction account would be

invested before earnings would commence, and he made a schedule based on such estimate.

He assumed that the period of construction would be two and one-half years. He used 6% as his interest rate, and I may here say that all the witnesses testifying on the subject agreed that the money for the construction could not be obtained at a less rate.

His schedule of interest allowances was as follows:

12% on Schedules 1 and 15.

7½% on Schedules 3, 5 and 29.

9% on Schedule 6.

6% on Schedules 7, 8, 9, 16, 35, 37, 38 and 39.

4% on Schedules 17, 19, 22, 23 and 28.

3% on Schedules 10, 11, 12, 13, 14, 20, 21, 26 and 27.

The great weight of testimony is against Mr. Hansel's proposition that the road could economically be constructed and put in operation in two and one-half years. I am convinced from the testimony that it would take more than three years, and I find that three years is the minimum time to be assumed. All the witnesses said more than three years. Insofar then, as Mr. Hansel's schedule of interest charges is based on his assumed time of construction (two and one-half years) it is in error.

We need not consider his allowance on Schedule 1, Right of Way and Station Grounds, because the decision in the Minnesota rate cases settled, beyond controversy, that there can be no interest allowed on such property if valued as of the present time.

Mr. Hansel discusses his interest allowances very fully in his appraisal (defendants' Exhibit 15, page 239, et seq.) and from his statements it is at once obvious that his allowance on Schedules 3 (Grading), 5 (Bridges, Trestles and Culverts), and 29 (Engineering on Roadway and Structures), is based on the assumption that

two and one-half years only would be required for construction.

I think that the allowance on Schedule 6, Ties, is also based on the same assumption, but I cannot be sure of it, nor can I be sure that the rate per cent allowed on any of the other schedules is necessarily dependent upon the time assumed for the complete construction of the road.

In this situation, my inclination would be to apply the complainant's method, using a 6% rate of interest, but as that method assumes an interest charge on lands during practically the entire period of construction, I am not able to determine to my satisfaction for what time the interest charge, under complainant's theory, would apply to the remaining schedules. In this dilemma, I am forced to adopt Mr. Hansel's method, and I use his percentages on the same schedules to which he applied them respectively, except that on Schedules 3, 5 and 29 I use 9% and on Schedule 37 (Contingencies) I compute no interest.

Even on the basis of Mr. Hansel's estimate of two and one-half years for construction, his allowance of 7½% on Schedules 3 and 5 is not sufficient, for the reason that he is incorrect in assuming that the interest charge on these two schedules would be evenly distributed throughout the entire period of two and one-half years. All the testimony in the case shows that the investment in these two schedules would be the first heavy investment after the purchase of the right of way, and that this work would be completed before other work on the roadway could be commenced. He allows one year for track laying and surfacing, and for ballasting, and these operations cannot go on before the grading is finished and the bridges in. If it is assumed that the one year he allows for these operations is an average of only six months, nevertheless, the total investment in Schedules 3 and 5



would be incurred at least six months before the final completion of the road, or two years after starting the work, and a 9% interest charge would necessarily be incurred before the road was completed.

Both the engineer for the defendants and for the complainant figured their interest during construction upon the reproduction value of the property, upon the theory that there could be no depreciation. The argument to support this contention is interesting and perhaps plausible, but I am not convinced that it is sound, and therefore I allow interest only upon the present value which I find.

In connection with this schedule, the claim was made by the defendants that there could and should be net earnings from the operation of completed portions of the line during the period of construction which should be taken into account as a partial offset against these interest charges. In support of this contention they produced the reports of the Detroit, Mackinac & Marquette Railroad to the Commissioner of Railroads of Michigan for the calendar years 1880 and 1881. These reports show net earnings during the construction of 151 miles, which were probably constructed in two years, of \$7,711, or \$51 per mile for the entire mileage under construction.

This is the only evidence offered by defendants in support of this claim. Does it prove that the net cost of reproducing this road could presumably be reduced \$51 per mile through earnings derived from operations during construction? It shows that the earnings from operation during the construction of this part of complainant's road exceeded operating expenses by \$51 per mile, and it therefore shows presumably that on a reproduction of the property there could be realized a like amount of net earnings, but it does not show that those net earnings would make the net cost of reproduction less by that

amount. In order to bring about that result; the operation from which these earnings are realized must be so carried on as not to increase the costs of construction over what they would have been had there been no operating during construction.

I find from the weight of evidence that on a reproduction of complainant's property in accordance with the plans, specifications and estimates proposed by either of the engineers in this case, such operations during construction could not be carried on without increasing the cost of construction, and that such increase would be great enough to overcome the amount of net earnings that could be realized from such operations.

---

To this finding on the subject of interest during construction defendants object (Objection No. 5 (c) (16) upon three grounds, viz: (1) that it is greater than any amount shown to have been expended on account thereof out of capital; (2) that it is greater than any amount which would be expended in case of reproduction; and (3) that it is computed on items valued at actual cost.

The first ground involved an erroneous assumption. It assumes that there is evidence in the case showing the amount actually paid for interest during construction and that the amount so shown is less than that allowed by me; whereas there is no evidence whatever of the amount actually paid for interest during construction. This ground is therefore without foundation. It may be added that proof of the amount actually paid for interest during construction although it might be relevant evidence tending to show the amount that would be required in a reproduction of the property, would not be conclusive or necessary evidence for that purpose. As to the second ground, the question whether the amount allowed by me

is greater than any amount which would be expended in case of reproduction is fully covered in my former discussion, as what I there undertook to determine and did determine was the amount which would be required to be expended on a reproduction of the property. I, therefore, can only reconsider the amount of the allowance made and see to what extent, if at all, it is too great. This I have done and have found no reason for changing the amount of the allowance.

With reference to the third ground that "interest during construction is computed upon items shown in Exhibit 1 (p. 2) to be included in the inventory at actual cost," I am unable to see its bearing—unable to see how the fact that any part of the property is appraised at actual cost is any reason why interest during construction should not be allowed on that value, unless it appears that an allowance for interest during construction was included in the assumed cost, which, in the nature of things, could not be the case, because interest during construction is an element of cost that accrues after the purchase of the item valued in consequence of unavoidable delay in putting the item to profitable use after its purchase.

---

Mr. Hansel made an allowance for taxes during construction of \$63,709, of which amount \$13,709 was on land values, on which, under the decision in the Minnesota rate cases, no such allowance can properly be made. Mr. Riggs included nothing for taxes during construction. It seems to me that a reasonable allowance for taxes during construction is an element of the cost and value of the property which cannot be ignored. Mr. Hansel's allowance is, in my opinion, under the evidence in the case, altogether too small. The evidence shows that the taxes paid each year by the complainant on its Michigan prop-

erty, including lands, exceeds \$200,000. An allowance, therefore, of \$100,000 on account of taxes during construction on property other than lands seems to me most conservative.

To my finding on the subject of taxes during construction defendants object (Objection No. 5 (c) (17) that no allowance for taxes during construction can be made, basing their objection on three grounds:

- 1st. That there is no proof that taxes would be paid;
- 2nd. That there is no proof of what was actually paid during the period of construction of complainant's property;
- 3rd. That there is no proof of the amount that would be paid in case of reconstruction.

As to the first ground: This assumes that no allowance can be made for such taxes unless the fact that the company would be required to pay taxes on their property in the period of construction, is proven by affirmative testimony, just as any fact requiring to be proved is proven in the case. The question thus raised is one of presumption, i. e., whether the presumption is that the company's property would be taxed during that period or whether the presumption is that it would not. The objection assumes the latter presumption, but I can see no ground for such assumption. The law requires that all such property be assessed for taxes by the proper officers, who, in this instance, would be the State Board of Assessors, and requires the proper officers to enforce payment of the taxes so assessed. So that the question of presumption is simply whether the law presumes that these officers will perform their duty which, to my mind, is no question at all. It is impossible that any court would hold that the presumption is that an officer of the law will not perform his duty, and that therefore the fact that he will do so must be proven by affirmative evidence.

As to the second ground:

It is true that there is no proof of what was actually paid by the complainant for taxes during the construction of their road, but the absence of such proof furnishes no ground for refusing to allow anything for taxes during the period of a supposed reconstruction. If the proof showed that such taxes were paid, and in what amount, that amount could not be taken as the amount to be allowed here, as there would be no presumption that it would be the same, although it might properly be considered in estimating the amount to be allowed here.

As to the third ground:

This evidently assumes that no allowance for such taxes can be made until their amount is shown by direct testimony, but it hardly seems possible that the defendants so intend. No such direct testimony is possible. The amount of what such taxes would be is a matter of estimate, based upon data; and all that could be proven by direct testimony is the facts constituting such data, viz., first the amount in value of the property that would be subject to taxation during the period of construction, and second, the rate of taxation. These facts are shown by, or are deducible from the evidence, and the item cannot therefore be disallowed in its entirety for want of proof. There remains, therefore, only the question of amount.

That question I have reconsidered for the purpose of determining whether my allowance of \$100,000 was too large.

Upon the precise question of amount there is no direct testimony except that of Mr. Hansel. He fixes an amount, but in doing so does not undertake to make an estimate arrived at by any calculation based upon data. He recognizes that the estimate of reproduction cost should con-

tain some allowance for taxes during construction, as taxes, in some amount, would certainly have to be paid; but instead of undertaking to arrive at that amount by estimate made in the usual way, he uses an arbitrary and fixes the amount at \$50,000. This arbitrary method of fixing the amount is not to be employed unless there is no better method possible. In this instance there is a better method. It is possible from data furnished by the evidence to make a reasonable estimate of the amount. As such data we have the value of the entire amount of property to be reproduced, the period of time covered by the construction, the rate of taxation and the amount of the yearly taxes on the entire property of complainant in Michigan for the years 1910 to 1913 inclusive. From these data it is possible to estimate the minimum amount that would beyond a reasonable doubt, have to be paid.

Taking three years as the period of construction, there would be taxes paid on a portion of the property in each of the three years. The amount of the taxes would depend upon the amount of property which would be subject to taxation in each year. Those amounts cannot be accurately known, but must be estimated. From the total amount there must be deducted the proper amount for land values, as, according to the Minnesota rate decision, that value is one upon which complainant is not entitled to interest during construction, and presumably taxes also.

It will not be accurate to assume that the property will be acquired at a uniform rate during the three years, but it will be sufficiently so for the proposed estimate. Making that assumption, there would be some portion of the property subject to taxation in the first year, but it would be small and will be omitted from this estimate.

In the second year there would be a larger amount, which it is safe to say, would not be less than one-third.



In the third year, there would be a still larger amount which may be safely estimated at not less than two-thirds.

On this basis there would be taxes paid during construction equal to one year's taxes on all the property, which, for the past four years has amounted to more than \$200,000 each year. This I consider a fair and reasonable estimate and if it is so my allowance of \$100,000 is an amount which would, beyond all reasonable doubt, have to be paid for taxes during construction.

It is possible to make an estimate of the amount of property that would be subject to taxation during construction, based upon Mr. Hansel's testimony with reference to interest during construction, and his estimate in connection therewith of the time required for the construction of the road. The value of Schedules 3, 5 and 29, which are grading, bridges, trestles and culverts and the engineering thereon, as I have found such values, is approximately \$3,500,000. It seems impossible that the property in this schedule should not be on two assessment rolls during construction. In one assessment only a portion of its value could be covered and in the other presumably its whole value. Taxes on this item would be \$70,000 if it were assessed only one year. It seems impossible that the item "Ties" under Mr. Hansel's testimony should not be on the assessment roll for more than one year. Assuming, however, that it is on for only one year, \$6,000 of taxes would fall upon it. The value which I have fixed upon Schedules 7, rails, 8, track fastenings, 9, frogs, switches and crossings, and 16, sidetracks, aggregates \$1,885,000, and if only \$700,000 of this amount was taxed for one year, it would make up, with the items just above discussed, the full amount of my allowance. There would remain \$2,200,000 of physical property, a considerable portion of which would fall under some assessment.

This estimate thus based on Mr. Hansel's testimony shows that my allowance of \$100,000 for this item is a very conservative one. It in no way conflicts with Mr. Hansel's allowance of \$50,000 for taxes during construction as that allowance was purely arbitrary, and was made, it would seem, from the testimony on the assumption that some special arrangement would be made with the taxing officers by which a portion of the taxes which the property would regularly be required to pay would be waived or remitted.

---

I therefore find the present value of this schedule to be: Interest during construction, \$547,657; taxes during construction, \$100,000. The interest item has been assigned to the different services in accordance with the allocations to the different services of the schedules on which the same is computed. The allowance for taxes I have apportioned to passenger, freight and common on the basis of all my other property allocations except lands.

*Schedule 41.—Furniture and Fixtures.*

I find that the present value of the items contained in this schedule is \$9,735.00 all allocated to common. There is no dispute between the parties on this schedule.

*Schedule 42.—Stores and Supplies.*

*Schedule 43.—Working Capital.*

In addition to the property embraced in the foregoing schedules, it is necessary for the railroad company to have and keep on hand ready for use, a considerable quantity of money and other property to supply current needs and meet current expenses. Such money and other property together constitute what may be properly called

working capital, and they have generally been so treated in standard works on the valuation of public service corporations and I so treat them here, although in the inventories submitted, money is placed in a schedule entitled "Working Capital" and the other property in a separate schedule entitled "Stores and Supplies".

In Whitten's Public Service Corporations, Vol. 1, Chapter 14, page 288, it is stated that

"In many rate cases, no mention is made of working capital and it does not seem to have been included at all, except as covered by the allowance for stores and supplies. No rate case has been found, however, in which there is recorded a refusal to allow for working capital."

By my own examination of the cases on the subject, I find no case where the question was involved, either before a court or before a commission engaged in valuing a public utility property, where there was a failure to allow for stores and supplies, nor where the question was directly presented, a refusal to allow for working capital.

It seems to me entirely clear that the stores and supplies which a railroad company, in the ordinary course of its business, keeps on hand for the purpose of carrying on its business, is property upon which it has a right to earn a return.

It appears from the evidence in this case that the Michigan proportion of stores and supplies which complainant had in stock on June 30th, 1913, was \$308,502. The complainant contends that this figure should be adopted in fixing the value for this schedule, while the defendants contend that there was an unusual amount of stores and supplies on hand in 1913, and insist that the average of the three years, 1911, 1912 and 1913, would more nearly represent the proper amount. I have concluded to adopt

an average of the three years. I therefore find the present value of this schedule to be \$272,811, which should be allocated as follows:

Passenger .....	\$ 2,844
Freight .....	5,557
Common freight and passenger.....	264,410

*Cash Working Capital.*

The defendants claim that no allowance should be made for a cash working capital. I am unable to conceive how the complainant can do its business without a cash working capital of some amount. But I find that courts and commissions have had great difficulty in determining the proper amount to be allowed on this account, and that the proper amount must finally rest in sound judgment.

It is in evidence in this case that the complainant must meet a monthly pay-roll, the Michigan proportion of which is from \$120,000 to \$150,000. It certainly must keep on hand for other purposes considerable amounts of cash. It is in evidence, further, that its average monthly balance in the hands of its treasurer in the fiscal year 1913 was \$205,536. I do not believe that this amount is more than is reasonably required to meet the exigencies of the business of the road, or more than will be required in the future. I have apportioned a portion of this to Wisconsin on the basis of track miles, and I find the Michigan proportion to be \$167,107.00, all of which is allocated to common.

The defendants in opposing any allowance for cash working capital contend that the complainant could and should obtain interest on daily bank balances sufficient to pay a fair return on such cash working capital. If it is a fact that such an amount of interest could by proper management be realized on daily bank balances, then that fact would constitute a good reason for refusing any al-

allowance for cash working capital. There is no evidence in the case from which I can find whether such is or not the fact, and as there is no presumption that it is a fact, I cannot on that ground, refuse to allow for cash working capital. Perhaps, on a full trial of this particular question, it would appear that some reduction in the allowance for cash working capital should be made on account of the possibility of earning interest on daily bank balances, but there is no evidence in this case from which the amount of such reduction could be estimated.

Treating stores and supplies as a part of working capital, as in a proper sense they are, my allowance for such total working capital is about 12% of the annual gross business of the company, and I find that the allowance on this account in the reported cases appears to run from ten to fifteen per cent of the gross business.

The amount of stores and supplies shown by complainant's inventory is less than the amount required, because their inventories of stores and supplies are taken as of June 30th in each year, at which time stores and supplies are below the average in two very important items. It is in evidence that the coal supply of the company is brought in during the season of navigation on the Great Lakes, and would be must larger at the close of navigation than on June 30th. It is also to be deduced from the evidence that the ties used each year are in the main produced during the winter months, when timber operations are chiefly carried on in the Upper Peninsula, and are largely distributed on the line and charged out of stores and supplies before June 30th, so that the amount which I have taken for stores and supplies is not the average amount throughout the year, but those on hand at a time when there was less than an average amount of both coal and ties in the inventory.

To the foregoing determination with reference to these

schedules 42 and 43, defendants object (Objection No. 5 (c) (18), on the ground that the amounts allowed for both Stores and Supplies and for Cash Working Capital, respectively, are too large, and claim that the aggregate should have been no more than the amount which was allowed for Stores and Supplies alone.

This objection, it seems to me, views this subject from a wrong angle, and assumes that the question is what amount of stores and supplies and working capital is required to properly carry on the business of complainant's railroad.

Such is not the inquiry. It must be borne in mind that the complainants are entitled to a return on the value of the property actually employed in carrying on their business, and that the inquiry here is, what is the value of that property? The stores and supplies and the cash working capital included by me in the inventory are a part of the property actually employed in carrying on complainant's business, and as such is as clearly entitled to a return as any other part of the complainant's property that is so used.

And it is no more incumbent on the complainant to prove by testimony in the first instance that these amounts are not excessive than it is incumbent upon them to prove that the number of locomotives or cars possessed and used by them is not excessive. The fact that these amounts of property are used by them in carrying on the business presumptively entitles the complainants to a return on their value, unless and until it is alleged and appears by evidence that the amounts are in excess of the requirements of the business. No such issue has been raised in this case, and there is no testimony tending to show that the amounts are larger than are reasonably required for the carrying on of the business. On the contrary, as I have explained in my finding, the evidence



shows that the amount for stores and supplies is the average for three years of the amount actually kept on hand in the ordinary course of the business. And as regards cash working capital, the evidence shows that the amount which I allowed was the average of the monthly balances for the year 1913; that that average was less than the average for the three previous years, and that if I had taken the average for the same years that I did for stores and supplies, my allowance would have been \$198,140.

This objection, therefore, asks me to make a finding which there is no testimony to support—a finding that the complainant has on hand and for a considerable time has been keeping on hand a greater amount of cash **working capital and stores and supplies** than the business requires, although there is no testimony to that **effect, but a very strong presumption** that the company would be prevented from doing so by the exercise of ordinary business prudence and judgment.

### *Depreciation and Appreciation.*

#### *Depreciation.*

In my valuation I have allowed for depreciation on all elements of the property where any depreciation has been shown by the testimony to exist, and the values therein determined are the present values of the different schedules as depreciated.

In the depreciation of those values I have in every **instance, with reference** to physical property, adopted either the estimate of the same made by Mr. Hansel or that made by Mr. Riggs, and therefore the manner in which each of these values is arrived at, and the amount of reproduction cost and of depreciation may be seen by referring to the testimony of said witnesses.

*Appreciation and Going Concern Value.*

We have now completed the consideration of complainant's property, as formally inventoried in their schedules. But it is claimed by complainant that the value of the property so found should be increased by two elements of value not yet considered, viz., that which arises from appreciation produced by adaptation and solidification of road-bed and cuts and fills and also the appreciation which arises from the fact that the property is now organized and in operation as a going concern. These additional elements of value it remains therefore to consider.

*Appreciation.*

This element of value as described by complainant is that which

“accrues to a railroad from the settling and solidification of its banks, the gradual cleaning out of its cuts, and the sodding of its slopes; and which, element of value comes only by constant work on the roadbed and by lapse of time.”

The amount which it is claimed should be added for this element of value was first stated at \$650,814; but was afterwards changed to \$553,000.

To this claim the defendants object and insist that it should be entirely rejected on three distinct grounds of objection:

1. That on the basis on which it is included in complainant's claims it has already been included in the physical items of the appraisal.
2. That its creation involved no capital expenditure but was paid for out of operating expenses.
3. That there is no sufficient proof that it exists, or of its amount of value.

As the item of appreciation thus objected to is of large amount and might conceivably become the pivotal point in the case, it requires to be carefully considered. The three objections above made will be considered in their order.

*1st Objection.* This objection involves a misconception of the function of reproduction cost as a basis of valuation. In saying that the "increase in value has already (i. e., in determining reproduction cost) been included in the physical items of the appraisal" it assumes one of two things, viz.: either that reproduction cost new necessarily includes all the elements of value that there can be in the thing under valuation, or else that the process of figuring reproduction cost in a rate case does not end with the determination of cost new, but is carried forward in some way so as to determine what would be the cost of reproducing an old thing with all its peculiarities resulting from use and age. Neither of these assumptions is warranted. The particular element of value here in question does not enter into the property until long after all the cost of reproduction new has been incurred; and it therefore could not possibly have been included therein as claimed in the first assumption. Hence, it cannot be included at all, unless the supposed process of reproduction is continued after the completion of reproduction new through sufficient time and use to bring the thing into its present state of condition old, as is assumed in the second assumption. As this second assumption is involved in the second objection, its correctness will be there considered.

*2nd Objection.* This objection to the value in question, on the ground that its creation involved no capital expenditure, but was paid for out of operating expenses fails to distinguish properly between value and reproduction cost, and involves the assumption above stated that

the process of supposed reproduction does not cease with reproduction in condition new, but is carried forward to the existing state of conditions old. The objection well illustrates the difference between reproduction cost and replacement cost, and also the reason why, in defining the kind of value required in a rate case. I have defined it as a replacement-cost value rather than a reproduction-cost value. Reproduction cost value is the amount which it would cost to reproduce the thing valued new (as that is the only condition in which it could be reproduced)—replacement cost value is the amount for which the law presumes it could be replaced, i. e., purchased in open market—that amount being determined by ascertaining the cost of reproduction new, deducting therefrom the percentage of depreciation found to be now existing and adding such appreciation, if any, as is found to have resulted from any improvement in the present condition of the property over the condition that it would be in when newly constructed.

This broad distinction thus seen to exist between reproduction cost and present value in a rate case is in this objection entirely lost sight of, where, instead of recognizing it, the objection assumes that the hypothetical reproduction employed here is a reproduction of the property in its present condition as regards depreciation and appreciation and that the value of the property is the net cost of such reproduction. Now, it will be seen that this involves a fundamental misconception of the theory of determining value on the basis of reproduction cost. Such a supposed reproduction would necessarily be assumed to cover a period of about ten years—three years for construction, in order to produce the property in condition new, and seven years of imaginary operation and maintenance in order to produce the property in its present condition as regards depreciation and appreciation; and

the amount of reproduction cost under this theory would depend upon the profitableness of the seven years' imaginary operation. It is evident that such a theory of reproduction cost is impossible of application, and wholly different from the hypothetical reproduction contemplated by the theory now in use of determining value on the basis of reproduction cost. That theory does not concern itself with either the past or the future of the property under valuation; it merely values the property as it exists today without any regard to ownership or method of acquisition, or whether its value or any part of it was paid for out of operating expenses or paid for at all, as all such considerations have no bearing whatever on the question of present value. And in so valuing the property as it exists today, it proceeds upon the assumption that the fair value of the property in its present condition as a basis of rates is the amount which it would cost to reproduce it new less the percentage of that amount which would correspond to the percentage of depreciation from condition new found in the present condition of the property, plus the amount of any element of value possessed by the property in its present condition which was not possessed by it in condition new.

The precise function of reproduction cost in a rate case thus indicated is very clearly made to appear in the following language used in the Minnesota rate decision, viz:

“When an estimate of value is made on the basis of reproduction new, the extent of existing depreciation should be shown and deducted. If there are items (meaning items of property) entering into the estimate of cost which should be credited with appreciation, this also should appear, so that instead of a broad comparison there should be specific find-

ings showing the items which enter into the account of physical valuation on both sides."

It is thus the cost of reproduction new (not old) that the theory in question contemplates; and the function of this cost new is to serve as a "basis" on which present value is to be determined by deducting from it the amount of depreciation, and adding to it the amount of appreciation found to exist in the property in its present condition as compared with what would be the condition of the same property when newly constructed.

In this case, the cost of reproduction new of each item and the amount of depreciation to be deducted are found and set forth in parallel columns in the several inventories. The item in connection with which the appreciation in question is claimed is that of grading and is found in Schedule 3. Logically the item should, as stated in complainant's brief, be carried as a part of that schedule as it is an element of the value of the roadway constructed by grading; but it is not so carried by complainant for the reason, as stated in their brief, that "it is an element of value on which no overhead charges should be figured, it having accrued subsequently to the creation of the overheads." Perhaps the item would have received different attention and therefore could have been better carried in immediate connection with Schedule 3, but whether so or not is a matter of form and does not affect the substantial question whether this large amount for appreciation of roadbed should be added to the total value of the schedules, on which question there now remains to be considered the defendants' third ground of objection.

*3rd Objection.* This objection insofar as it relates to the existence of the element of value in question, is not well taken. There is an abundance of testimony on both



sides to the effect that this element of value exists in the complainant's railroad and there is no testimony to the contrary. It is testified to by complainant's witnesses, Riggs, p. 249; by Young, pp. 865-6; by Cooley, pp. 5713-15, and by defendants' witness, Hansel, pp. 4952-3.

With regard, however, to the amount of the value reckoned in dollars and cents, the objection is more serious. The only testimony which bears directly upon this question is that of Mr. Riggs, found on pages 249-50, as follows:

"Q. Taking the items in this Schedule 3 which have not been depreciated, the earthwork, grading, for example, at 100 per cent, that is, assumption that the work was in the same condition as if presently graded, confining ourselves now to the grades, cuts and fills?

"A. That is upon the assumption that the work is worth as much as it would cost to produce a new like structure.

"Q. Your appraisal is the cost of reproduction new?

"A. Yes, sir.

"Q. As to its values, as to the value of the cuts and fills of this railroad, as compared with the value of the same cuts and fills if they were new now; I mean measured by service-ability, expense of maintenance, safety and economy of operation, and all those things; what is the truth in that regard?

"A. The cuts and fills on this road are in a condition today of absolute stability due to settlement, due to the fact that all of the erosion by water and various other forms of sloughing and settlement that will take place, have taken place, and that many, or I may say, most of the embankments and slopes of cuts have become sodded over. The roadbed of

the company is in very much better condition today than a new, green, unseasoned roadbed would be.

“Q. Why better?

“A. There will be no settlement, and the expense of maintenance is less, very materially less on an old, well seasoned roadbed that has become thoroughly adapted to conditions of drainage that are formed or created by the construction of roadbed.

“Q. How about the amount of labor required to maintain it, the roadbed, in the condition that the roadbed of this company is in, compared with the same if it were new?

“A. In my judgment, the cost of track maintenance would be increased on an average by the addition of two or more men per section for the first six or seven years, to take care of the work of cleaning out of cuts and of replacing earth around embankments that had sunk down or been washed away.”

The objection to the making of a finding of value on the strength of this testimony is two-fold; first, that it is not sufficiently definite to form a basis for such finding, and second, that it was introduced for another purpose, and is now being used as an afterthought for a purpose which was not in the mind of either counsel at that time; and that defendants have therefore had no opportunity to offer opposing testimony.

As an appreciation in value has been shown to exist, and as it is necessary to take that appreciation into account in order to arrive at the true value of the property, and as it cannot be so taken into account until its amount has been proven, it is clear that the question as to what that amount is, ought to be squarely presented and be made the subject of such proofs as either party may desire to offer. In the present condition of the proof, it cannot be claimed by either party that this has been done.

The result is that I am reduced to the alternative of either giving effect to the unanswered evidence of the complainant's witness as claimed by the complainant or else rejecting that evidence as improper or insufficient, and thereby throwing out the claim for appreciation as the defendants claim should be done.

In my judgment, neither of these alternatives would be a fair disposition of the subject of appreciation, as either alternative would tend to deprive one or the other of the parties of the right to a full and fair trial of this question of appreciation.

With regard to the present condition of the proofs on this subject, it cannot, I think, be fairly said that either party has been seriously at fault; and if it can be so said, I think that such fault should not, in a case of this nature, be permitted to stand in the way of a full and fair hearing of the question on its merits—the case being not one in which merely two private parties are concerned, but one in which the entire public is concerned, and in which it is to the interest of all concerned that substantial justice be done.

As the fact of appreciation is proved by uncontradicted evidence, and as there is some evidence of the amount of that appreciation, which evidence is uncontradicted, and as the complainant is clearly entitled to the amount of the appreciation when shown, it seems to be clearly my duty to give effect to the evidence as to the amount of appreciation, and allow the amount thereby shown for appreciation in the value of the complainant's property; but with the recommendation, however, that this finding be neither approved or disapproved without first giving opportunity for a fair trial of the question by the introduction of further evidence by each party.

In estimating the amount to be thus provisionally allowed for appreciation, I find that the amount of \$553,000

is too great, that it was evidently computed on the assumption that the extra section men employed on the new road, as compared with those required on an old road, would be employed during the entire year, whereas they would be employed not more than seven months in the year. Computed on the basis of seven months, the cost of such extra employment would amount to approximately \$318,000.00 and I have fixed the amount to be allowed for appreciation at \$300,000.00.

That my allowance of \$300,000 for this item of appreciation is conservative I am fully convinced, in view of the testimony of all the witnesses as to the greatly increased value of complainant's roadbed by reason of adaptation and solidification, and my conviction in this regard finds further confirmation in the fact that in the Minnesota rate cases, the State conceded that the adaptation and solidification of the roadbed of the Northern Pacific Railroad amounted to the sum of \$1,613,612, which was over 15% of the remainder of the grading item as found by the Master, whereas the allowance which I have made is less than 11% of the remainder of my grading schedule.

As to the propriety of this allowance, the only possible question is the above described question as to the sufficiency of the evidence as to its amount. That there has been some appreciation in the value of the property is shown and not disputed; that in order to reach a proper estimate of the value of the property under the method of valuation employed in rate cases, any appreciation in value that has taken place must be added to reproduction cost less depreciation, there is no room for question either on authority or on principle. In such method of valuation, depreciation must be allowed, and depreciation cannot be allowed without the allowance also of appreciation. The two are there vitally and inseparably con-

needed. The latter is the necessary corollary of the former. Every reason which calls for the allowance of depreciation calls equally for the allowance of appreciation. The ground on which depreciation is allowed in such method of valuation is that it is a necessary step in determining the amount that it would cost to acquire the property in its present condition as regards depreciation, it being assumed that the purchaser will be willing to pay for the property, its cost of reproduction less existing depreciation. But to determine value it is not enough to find only what the purchaser will be willing to pay; it is equally necessary to find what the vendor will be willing to accept, and in finding this, it is just as necessary to allow for appreciation as it is to allow for depreciation in finding what the purchaser would be willing to pay. In this case the allowance for depreciation on the entire property amounts to a very large sum—being in excess of \$2,000,000, and it is allowed because it appears that such depreciation exists. But it also appears that while that depreciation was taking place, some appreciation was also taking place, and it would be a manifest injustice and an irrational application of the method of valuation employed to deduct \$2,000,000 from reproduction cost on account of existing depreciation and fail to add anything on account of existing appreciation.

It is for this reason, viz., that the valuation would be clearly incomplete and unjust if no appreciation is allowed, that I have made the above allowance and recommendation.

#### *Going Concern.*

The claim of an amount to be allowed in the valuation, because the property constitutes a going concern must be rejected for two reasons, either of which is ample. In the first place, if there is any such value, there is no proof

from which the amount of it can be found. In the next place, any such value, if found, must depend directly upon rates and would therefore be a kind of value that can find no place in a rate case. The "Concern" could not be made to "go" at a profit unless the rates permitted it, and, given the business, the higher the rates, the greater the profits, and the greater the profits, the higher the rates insofar as the rates would be predicated on a going concern value.

By the courtesy of counsel for defendants, my attention has been called to a decision rendered by Judge Sessions in the case of the Ann Arbor Railroad Company vs. Grant Fellows, et al., wherein the question of the allowance for certain costs therein called "Overheads" was involved.

From a careful study of that entire opinion, my conclusion is that the learned Judge, notwithstanding that he used expressions with reference to contingency allowances, that might at first blush seem to be of general application, did not therein intend to lay down any general rules or principles applicable in all rate cases either to contingencies or to any other so-called overhead allowance, but that in his remarks he was confining himself entirely to conclusions to be drawn from the testimony in that case.

*Deductions from Inventory by Reason of Property Located in Michigan, but Which is Also Used for Wisconsin Operations.*

The general shops of the complainant are all located at Marquette, in Michigan, and perform work for the railway system as a whole. Defendants contend that a proportion of the value of these shops should be deducted from the Michigan value and assigned to the Wisconsin business. They also present the same argument as to



the Thomaston round-house, which is near the border line between Michigan and Wisconsin, and which houses locomotive that run in Wisconsin, as well as locomotives that run in Michigan.

In recognition of this contention, I have deducted from my Michigan values the portion of the value of the general shops which should be attributed to the Wisconsin business, using as a basis for arriving at this apportionment the percentage of miles of main line track of the complainant in Wisconsin to complainant's total mileage of main line track, viz., 18.3%. I have applied this percentage to the different items of these shop buildings, of the land on which the shops are situated, of the sidetracks used in connection with the same and of the machinery therein.

As to the Thomaston round-house, the engines housed there run as far west as Superior, Wisconsin, and as far east as Marquette, Michigan. I have therefore deducted from the total value of this round-house and of the land on which the same is situated, the portion of such value which should be attributed to the Wisconsin business, using as my basis for this apportionment, a percentage derived from the relation of the miles of main line track from Superior to the Wisconsin and Michigan State line to the total miles of main line track between Superior and Marquette, viz: 41.9%.

The total deductions from the inventory by reason of these apportionments of values to the Wisconsin business amounts to \$42,459, all of which has been deducted from the property of the complainant in Michigan. To these deductions I have also added all overhead charges computed upon the same, amounting to \$1,449, making a total deduction of \$43,908.

The detail of these deductions is as follows:

Schedule.	Total Value.		Assigned to Wisconsin.
1. Lands on which Marquette shops and tracks used in connection therewith are located.....	\$23,252	18.3%	\$ 4,255
1 Lands (Thomaston round-house) .....	130	41.9%	54
16 Shop tracks and switches at Marquette and Thomaston .....			4,403
19 & 28 Shop buildings at Marquette used for general purposes .....	51,678	18.3%	9,457
19 Round-house at Thomaston .....	18,804	41.9%	7,879
20 Shop machinery and tools .....	89,676	18.3%	16,411

The allocations of these deductions are as follows:  
Passenger \$102. Freight \$720. Common \$43,086.

The totals above given, and also the details, differ from those given in my tentative report, for the reason that, having adopted the estimate of defendants' expert, Mr. Hansel, of \$50,000 for the legal expenses in Michigan, the overheads on these deductions were necessarily changed, and also because, through a clerical error, 41.9% of the shop tracks at Marquette had been assigned to Wisconsin instead of the 18.3% thereof which I intended to assign, and certain tracks at Marquette and Thomaston had been omitted.

In addition to the above deductions, I have, as explained under Schedule 17, deducted from that schedule \$1,685 on account of the Marquette passenger station,

the second story of which is used and occupied by operating officials and their clerks.

Inasmuch as this property is all located in Michigan, is taxed as Michigan property, and is necessary for the performance of the Michigan business, and would be just as necessary if there were no lines of complainant in Wisconsin, I am in grave doubt as to whether the entire value of such property should not be assigned to Michigan. I have, however, in this instance, as in all others, followed the rule of resolving doubts in favor of the defendants.

*Exclusion From Inventory Claimed by Defendants.*

The defendants claim that the inventory of complainant's property should not contain any property or values of the following description:

1. Property not in public service.
  2. Property furnished by industries.
  3. Property used by others.
  4. Value of clearing and grubbing.
  5. Property contributed by the public.
  6. Property of the Mackinac Transportation Company.
  7. Property supported by interest or sinking funds.
  8. Property newly acquired.
  9. Property created by operating expenses,
- and that whenever any such are included, they should be deducted.

Of these several descriptions, numbers 1, 2 and 3 are covered by the principle adopted and adhered to throughout this report that only such property is to be included in the inventory as is in use in the service to which the rate in question applies.

Numbers 4, 5 and 6 have been discussed under their respective schedules.

As regards 7, it is, of course, true, as a principle, that when the return to which the company is entitled on the value of a certain piece of property is realized to any extent in the form of interest paid directly to bondholders or others, such interest will constitute *pro tanto* the required return on the property, and to the extent that it does so, the property is not entitled to a return in railway fares. But there is no property in complainant's inventory that calls for the application of this principle, as the only property against which the defendants aim this claim is the complainant's one-third interest in the International Bridge at Sault Ste. Marie,—a property that can have no effect upon this case, as it is all allocated to interstate.

Numbers 8 and 9 are covered by what was said relative to Numbers 1, 2 and 3; and also by the principle likewise adhered to in this report that all property should be included in the inventory that is in railroad use in the service to which the prescribed rate applies without regard to its ownership or to the time or manner of its acquisition. It must be constantly borne in mind that this case involves three main questions and only three, viz., (1) What is the value of the property used in rendering the service to which the prescribed rate applies? (2) What will be the probable net earnings derived from the use of the property under the prescribed rate? and (3) Will those net earnings be sufficient to constitute a fair return on the value of the property? and that therefore the case involves only such subordinate questions as are necessarily involved in determining these three main questions. As the purpose of the inventory is to determine the value of all the property employed in the service, all the property so employed should be included and the

question whether any particular property should be included or excluded depends entirely on whether it is so employed. In a number of the claims made by defendants in the case, this principle seems to have been lost sight of; for example, amongst the claims above enumerated, numbers 5, 8 and 9 assume that the question whether certain property should be included or excluded does not depend on whether it is so employed, but upon something else; that although so employed, the property should be excluded if it was donated by the public, or was recently acquired or was created out of moneys which had been charged up to operating expenses. These claims assume that the issue to be tried here is not whether the prescribed rate will pay a fair return on the value of all the property used in rendering the service to which the rate applies, but whether it will pay such return on only some portions of that property—that some portions of the property so used have been acquired in such a way that the company is under obligations to donate the use of them to the public, and that they should, therefore, be excluded from the inventory, and also that we must here inquire into and determine all such questions as may thus be raised. In my judgment, all claims of this character in a rate case are entirely irrelevant. In a rate case, the status of the company in its relations to the state and to its property is defined and determined by the law under which the company is organized, supplemented by existing constitutional guaranties and not by the innumerable other considerations which might otherwise be urged as bearing on the general equities as between the company and the public.

If this view is correct, the claims numbered 5, 8 and 9 are irrelevant. But in any event they are in my judgment, not sustainable. As regards No. 5, that property donated should be excluded—this claim is based on a

theory that where complainant receives property as a gift, it thereby becomes obligated to use the property in the public service without charge. Such a theory is self-contradictory. It is of the very essence of a gift or donation that the thing donated becomes the property of the donee with the right to its full beneficial enjoyment and free from all obligations. If, in receiving the property, the recipient becomes bound to perform some obligation imposed by the terms of the grant, the acquisition is not a gift, but a purchase. Certainly no such obligation as is claimed can be held to arise by implication from a gift or donation.

Claims number 8 and 9 might be relevant to the question as to what should be taken as a typical year as a basis for forecasting the future, but not to the question of exclusions from inventory. Thus, as regards number 8, if, in a certain year, a large amount of property newly acquired, the rate of return on the value of the property in that year might be thereby rendered abnormal to such an extent that the results of that year could not be used without modification as a basis for forecasting the future, but that fact would furnish no reason for excluding the property from the inventory.

Similarly, as regards Claim Number 9, if it appears that some portions of the property inventoried were purchased with money that was charged up to operating expenses in some particular year, it is clear that such charge was improperly made; that in consequence the accounts do not correctly show the operating expenses for that year and should be corrected; but such error would furnish no ground for excluding the property so acquired from the inventory, nor would it have any relevancy to this case, except as it would have a bearing on the question of using the results of the particular year



in which the error occurred as a basis for forecasting the future.

---

To the foregoing disposition of their claim with reference to property alleged to have been created out of operating expenses, defendants object (Objection No. 6).

*Objection 6.* This objection assumes that there is certain property in the inventory which was purchased by the company and paid for with money that was charged up to operating expenses, and claims that all such property must be omitted from the inventory, because it was thus purchased and paid for.

The question thus raised is covered by the principle adopted and uniformly applied by me throughout the case that the property on the value of which the company is entitled to a return is the property used in rendering the service to which the prescribed rate applies, without any regard to the ownership of the property or how that ownership was acquired.

If there is, as assumed, property contained in the inventory which was paid for by the company out of moneys which were charged up to operating expenses, the effect and only effect of that would be that the account of operating expenses for that year would be too large by that amount; but that would constitute no ground for excluding the property from the inventory or have any bearing on the question whether it should or should not be excluded.

I am again referred to the case of Cumberland Telephone Company vs. Railroad Commission, 212 U. S. 424, as authority for defendants' contention that property purchased or created out of operating expenses must be excluded from the inventory in this case.

I have carefully considered this case, and I cannot find

that it involves any such question or that there is in it any decision showing or tending to show that where a valuation is involved, property acquired out of operating expenses is not to be included in the inventory.

In that case the State claimed that the accounts of the company showed that it was demanding a return upon its impaired capital as though the same were unimpaired, and, in addition, was demanding a return upon a depreciation fund created for the express purpose of making good the impaired capital. In a case involving valuations this would clearly be the equivalent of duplicating property values.

The lower court held that the burden was upon the state to prove that the accounts did so show. The Supreme Court reversed the case, upon the ground that the burden was upon the company.

#### *Division of Common Property Between Passenger and Freight.*

After assigning to the two services respectively all the property that can be allocated to either there is a large part of the railroad's property which is used in common by the two services in such a way that no part of it can be assigned to either service as being used exclusively therein. But it is necessary to determine what portion of this common property the passenger earnings should pay a return upon and therefore necessary to find some basis for dividing the same between the two services.

In the Minnesota rate cases, the common property was divided in the lower court on the basis of the gross earnings in each service; but this method was distinctly disapproved by the Supreme Court on appeal and the question as to what the basis of division should be was thus left and still remains an open question. As bearing upon the question, however, the court there stated as follows:

"When rates are in controversy, it would seem to be necessary to find a basis for a division of the total value of the property, independently of revenue, and this must be found in the use that is made of the property. That is, there should be assigned to each business that proportion of the total value of the property which will correspond to the extent of its employment in that business. It is said that this is extremely difficult; in particular, because of the necessity for making a division between the passenger and freight business and the obvious lack of correspondence between ton-miles and passenger-miles. It does not appear, however, that these are the only units available for such a division; and it would seem that, after assigning to passenger and freight departments, respectively, the property exclusively used in each, comparable use-units might be found which would afford the basis for a reasonable division with respect to property used in common."

I think that in this expression, the Supreme Court recognized the difficulty, if not the impossibility, of dividing the property with mathematical accuracy and required only the making of such a division as would, all things being considered, be fair as between the two services.

For a number of items of the common property bases of division may be found from the evidence which are satisfactory to both parties and are agreed to by them. The items and the bases agreed upon are as follows:

Schedule 23. Fuel Stations: It is agreed that the items in this schedule should be divided on the basis of the amount of coal consumed in each service respectively. This division, using the figures of 1913, assigns 29.56 percent of the whole to the passenger service.

Schedule 22. Water Stations, it was agreed might be divided on the same basis as fuel stations, and I so find. The division assigns to the passenger service 29.56 per cent.

Schedule 10. Shops, Engine Houses and Turn Tables, it was agreed, might be divided on the basis of locomotive housings, and I have so divided them.

It was agreed that the following, viz:

Schedule 20, Shop Machinery and Tools;

Schedule 21, Roadway and Construction Tools; and

Schedule 42, Stores and Supplies,

might be divided on the basis of the relation between all the other assignments made to freight and passenger. I have so divided them and such division assigns 30.22 per cent to the passenger service.

Schedule 43. Working Capital I find should be divided on the same basis as the schedules last above mentioned.

The detail of these divisions will be found on page 2 of Exhibit 1, hereto attached.

By these methods we are thus able to divide the common property embraced in the foregoing schedules; but such property is but a small part of all the common property. The great bulk of the common property remains to be divided, and as none of the methods of division above employed are applicable to it, some other method or basis of division must be found. It is tacitly recognized by both parties that any basis of division that will properly divide any part of this remaining property, will divide all of it, and a different basis for such division is proposed by each of the parties.

Before considering these proposed methods, let us recur again to the language above quoted from the decision in the Minnesota rate cases and see precisely what it is that we are required to do. From the language there

used, it is seen that we are required to divide the common property between the two services in proportion to the use of the property made by each service, and in order to find such proportion, we must measure the use made by each, and in doing so, must employ such units of measurement as will enable us to compare the extent of the one with that of the other, i. e., by comparable units of use. The first step therefore, in the task of making this measurement is to find comparable use-units. What are the units of use that will answer this purpose? To this question, the counsel on each side in this case have proposed an answer in the method of division which he proposes, which is as follows: On behalf of complainant, it is claimed that the use to be measured consists of the moving of revenue producing trains, and that the division is to be made on the basis of the distance (measured by miles) traveled by the trains in each service which earn a revenue, i. e., on what is known as the revenue train mile basis, the mile being the unit of measurement. On the part of the defendants, it is not disputed that the use to be measured is that which is involved in the movement of revenue trains, but it is claimed that that use should be measured, not by the distance moved by the trains, but by the time occupied in their movement.

As between these two methods of measurement, we are, of course, to accept and employ the one that will most accurately measure the extent of the use.

Now it is evident that each of these two kinds of units will, in a certain way, measure the extent of the use, but not in the same way. The extent which one will measure is not the same extent which the other will measure. The fact is that the use in question has two kinds of extent—an extent in time and an extent in space—and the two kinds of units of measurement pro-

posed, correspond to these two kinds of extent. Our choice between these two kinds of measurement therefore, depends wholly on which of these two kinds of extent it is that we wish to measure. What kind of extent is it that we want to measure—that of time or that of space?

In seeking to answer this question, we find that what we have to choose between is not in reality two kinds of extent, but two kinds of use, viz., a movement use and an occupancy use. The extent in time which the defendants propose to measure by a unit of time is an occupancy use, and the extent in space which the complainant proposes to measure by a unit of distance is a movement use. Both of these two kinds of uses are involved in the operation of trains, and the question is, which kind of use is it that we should measure for the purpose in hand? The obvious answer to that question is that it is the principal use, the particular use, which most directly and effectually accomplishes the purpose or object sought to be accomplished by employing the property. That purpose is, the transportation of passengers and freight from one place to another, and this being so, the principal use is, of course, the movement use by which that transportation is accomplished. This use involves, in some degree, an actual physical occupancy, and therefore an occupancy use, but that occupancy use is incidental and subsidiary to the movement use, and is of only a very small portion of the property during a very small part of time. The extent of time of this fitful, transient and partial occupancy clearly afford no reasonable measure of the use of the property made by each service in the operation of its trains, although it might do so under other conditions, where time of occupancy was important and the one service was curtailed or otherwise affected



injuriously by the continued exclusive occupancy of the property by the other service.

Time of occupancy may be, and frequently is the true measure of the extent of a use, as for example, the use of money which is paid for in interest computed on the basis of time, or the use of property which is paid for in rent, also computed on the basis of time. In fact, it is just such a use of property to be so paid for on a time basis that we are trying to apportion, viz., the joint occupancy or use of all of the common property all of the time by the two services, freight and passenger. This joint use it is that the public is required to pay for in freight and passenger tariffs—the whole amount to be paid by both services being in the nature of a rental and being determined by the value of the common property and the rate of return allowed, computed on a time or per annum basis. It is for the purpose of determining what part of this joint rental each service should pay that we are here trying to divide the common property. And it is just because the occupancy is joint and not several or separate, that we are confronted with this problem. If, instead of being the subject of a joint occupancy, all the property in question were alternately occupied separately and exclusively by each service for a certain length of time, so that the combined time of all the exclusive separate occupancies equaled the time for which the public is required to pay a return on the so-called common property, the amount in the nature of rental, which each service should pay could be determined just as the entire amount of return is determined, i. e., on a time basis—each would pay in proportion to the time of its exclusive occupancy. But such is not the case. There is, in fact, a kind of separate exclusive occupancy by each service involved in the operation of the trains under consideration, but it is not an occupancy of the entire

property at any time or of any portion of the property for any definite time, but only of a very small portion of the property during a very small and indefinite fraction of the time. I cannot see how it is possible to make any rational apportionment of the whole of this joint occupancy between the two services on the basis of the time consumed by each in a series of momentary separate occupancies of small fractions of the property such as are involved in the movement of trains. The attempt to do so involves the making of an impossible combination of two unrelated bases of division, viz., the time basis (which can be used only where there is an occupancy sufficiently continuous to furnish the basis) and the basis of a particular use, viz., the train movement basis.

The fact is, that what is here called "time of occupancy" is in reality the exact reverse of that. Instead of time of occupancy, it is occupancy of time. It is an occupancy, not of certain property during a certain time, but of a certain time in accomplishing a journey or movement. The length of time which is proposed as a basis of division is that which is consumed in accomplishing a train movement. If a freight train or a passenger should stand on the common property for days or weeks, it would constitute an actual occupancy but the time of such occupancy would not here be taken into account at all. It is only train movement that is taken into account and movement can be measured only by a unit of distance. What the defendants here in reality undertake to measure is not the extent of a time of occupancy but the extent of time consumed in making a movement an extent which bears no necessary relation to the extent of the movement. To graduate the charge for the privilege of moving a train 100 miles on the common property in proportion to the time consumed in making the movement instead of on that of the distance moved,

would be irrational. It would be the same in principle as though a tollroad company should charge a horse and carriage for a journey of ten miles the same amount that it charged an automobile for a journey of fifty miles for the wholly irrelevant reason that each journey consumed the same amount of time. In the one case as in the other, the use, the extent of which is to be measured is a movement use; the extent of a movement use is an extent in space or distance and the unit by which such a use is to be measured is therefore of necessity a unit of distance.

In addition to the foregoing, it may be noted also, that in this case, the so-called time of occupancy referred to is practically of no consequence, because each service has a great superabundance of time in excess of its needs. The aggregate use of the common property made by both services is far within the capacity of the property for such use, and therefore, neither service either benefits itself or injures the other by occupying the property or a part of it during a longer rather than a shorter time. Under these conditions, it is clearly of no consequence to the passenger service whether the freight service in running a train fifteen miles, consumes one hour or three or any other number, so long as it does not curtail nor trespass upon the time required by the needs of the passenger service; and there is, therefore, no reason why the freight service should be charged with a greater amount by reason of the longer time so occupied. Nevertheless, if the extent of time consumed is to govern, where the passenger trains average thirty miles an hour and the freight trains fifteen miles the freight service would be chargeable with double the amount chargeable to the passenger service, and without any basis in equity or reason. That the proposed application of the time basis here would lead to such anomalous results is even more

apparent when it is remembered that the rapid movement of the passenger train consuming a short time is immeasurably more valuable to that service than would be the slower movement of the freight train, and that at the same time this more valuable movement would be made to cost one-half as much as the less valuable movement would cost. In other words, if the average speed of the passenger train were reduced to fifteen miles per hour, its efficiency and value would be greatly reduced and at the same time its cost (in this particular) would be increased by 100%.

My conclusion is that the extent of the use made by each service of the common property in the operation of revenue trains is to be measured by the distance moved by the trains and not by the time consumed in making this movement; that the unit of use is therefore, a distance unit; and that the property is to be divided on the basis of the number of miles traveled by the trains in each service respectively.

A further, and it seems to me a very cogent reason for choosing the distance basis of division rather than the time basis consists in the fact that the time basis is, on closer examination, found to be in conflict with the statute itself, which we are here considering, while the distance basis is in harmony with it.

The statute itself, although it does not, in terms and directly make the division in question, does make it in effect and indirectly, and makes it on the basis of distance. It does this by prescribing on the basis of distance transported the amount to be paid by each of the two classes of users of the common property in the two services. Thus, it provides that the amount to be paid by the passenger service for all its expenses, including its share of the reasonable return on the value of the common property, shall consist of the passenger fares re-

quired to be paid by each of the individual users of passenger property (both exclusive and common) and these fares are fixed, not at the rate of so much per hour or other unit of time, but at the rate of so much per mile of transportation without regard to the time consumed in effecting the transportation.

Here we have the judgment of the legislature as to the amount that is to be paid for the use of the **passenger** property both by the individual user and by all the users collectively—the latter being the sum total of the former; and it is an amount that is determined not by the extent of time during which the passenger is in transit, but by the number of miles that he is transported. The amount to be paid for a journey of 100 miles is precisely the same, whether it consumes two hours or a dozen.

And this judgment of the legislature thus embodied in the statute and employing the basis of distance is there followed by another and similar judgment in which also, the distance basis is employed. Recognizing the fact that owing to differences in conditions of different railroads, the amount to be paid per mile by each passenger should be greater on some roads than on others, the legislature adjudged that on some roads 2¢ per mile would be fair to the public and would yield a fair return on the value of the property employed, and on the other roads a rate of 3¢ per mile would fulfill these requirements; also that the roads on which a rate of 2¢ per mile will yield a fair return upon the property employed in the passenger service are those on which the gross passenger train earnings equal or exceed \$1,200—not for every hour or other unit of time consumed by the passenger train—but for every mile of road on which passenger trains are regularly operated without any regard to the time consumed in the movement of such trains. That we are bound to presume that the legislature formed and ex-

pressed these judgments thus embodied in the statute there can, of course, be no question. Nevertheless, it is claimed in this case that we must here presume that the legislature, in forming these judgments and reaching these conclusions apportioned the amount to be paid by each service for the use of the common property on the basis of the time consumed in the movement of its trains, and as the passenger trains move rapidly and the freight trains slowly, it consequently apportioned a much greater amount to the freight service than to the passenger.

I cannot conceive how it would be possible to presume or believe that the legislature did this, even if the statute contained nothing to the contrary, and still less can I do so when, as here, the statute indicates quite clearly that a different course was pursued.

If the legislature divides the use of the common property on the basis of time of occupancy it should, in order to be consistent, and in fairness to the traveling public and to the company and to the railroads, require the two classes of users to pay for the use made by each on that basis, also, i. e., in proportion to the time occupied by each respectively. Instead of being required to pay so much per mile of distance transported without any regard to the time during which he occupies a seat in the car, a passenger should be required to pay so much per hour or other unit of time for the time during which he occupies a seat in the car, without regard to the distance that he is transported. If it is time of occupancy that constitutes the use, he should be required to pay at the same rate per hour, whether the car in which he occupies a seat is traveling at the rate of thirty miles an hour or fifteen miles, or indeed is standing still on a common side track, the use in either case being the same.

The division of property and the rate charged should certainly harmonize and be consistent with each other,



and when thus made to harmonize the company would doubtless be quite satisfied with the division on the time basis, as it would leave them at liberty to increase their passenger earnings *ad libitum* by simply decreasing the speed of their passenger trains.

The conclusion that the revenue train mile and not the revenue train hour is the proper method of measuring the extent of the use and of apportioning the burden of expense and therefore of dividing the property is supported by the weight of expert opinion, and by judicial authority. It is supported by the testimony of a large number of witnesses, who have testified in this case, having an intimate knowledge of, and a large experience in the practical operation of railroads, and it has the sanction of judicial authority, it having been adopted and used for the division of common expenses in the very recent case involving the Illinois 2¢ rate law. *Trust Company of America vs. Chicago, Peoria and St. Louis Ry. Co.*, 199 Fed. 592-595.

That case I regard as in point here although the division there made was of common expenses and not of property; because the division here, although called a division of property, is not such in fact, but is instead merely a division of the burden of paying a fair return for the use of the common property, which is nothing more or less than one of the expenses attendant upon the rendition of the service.

I have thus considered this subject of dividing the common property at very considerable length because it is one of the most important and difficult questions in the case.

Proceeding now to the practical application of this train mile basis to the purpose in hand, we encounter, at the outset, a question as to what mileage precisely that basis ought to include. In the application of it originally

made in the case by complainant, it did not take into account any of the mileage made in switching operations. To this omission, the defendants object specifically and insist that in any application of this method of division all switching mileage must be included.

This objection raises some difficult questions. If switching miles are properly classed as train miles, such of them at least as are made on the common property should, of course, be included in the basis on which the division is to be made. The question whether they are properly so classed need not be considered here as the complainant is willing to concede that they be here treated as such. It does not concede, however, that the switching miles to be so treated are, as claimed by defendants, either as regards total number or number made on the common property, and various questions are raised in this connection which it is necessary to consider.

Inasmuch as by far the greater part of the switching mileage is made in the freight service, the effect of including that mileage is to increase the freight train miles and thereby throw a greater percentage of the property and expenses on the side of the freight service. The division of common property arrived at by complainant by applying the train mile basis without switching mileage, assigns to freight 52.96 percent and to passenger 47.04. The division arrived at by defendants on what they call their modified train mile basis, i. e., modified by including switching mileage, assigns to freight 65.31 percent and to passenger 34.69.

In reply to this claim of defendants, the complainant claims that if the train mile basis is to be modified by the inclusion of switching mileage, the modification thus proposed by the defendants is defective in three important respects, viz.,

1. That it assumes that all of the 32.2 percent of the elapsed time of freight trains that the evidence shows is spent in stational work is spent in switching operations, although the evidence shows that at least one-third of that time is spent by the trains in standing still, while unloading less than carload freight.

2. That it assumes that switching movements are made at the same rate of speed that is made by trains while running on the road, when, in fact, the switching mileage is computed on a time basis, in which the speed assumed is 6 miles per hour, and the average speed of freight trains running between stations is sixteen miles an hour.

3. That the greater part of the switching done by both road engines and yard engines is done on exclusive freight tracks, which are not common property, but have been allocated to freight, and the expenses of maintenance of which have been assigned as freight expenses.

In dealing with the questions thus raised, it is to be borne in mind that here, as in so many instances elsewhere in a rate case, it is impossible to be accurate, and difficult even to estimate, but that it is nevertheless necessary to approximate the truth as nearly as possible. And it is clear that an estimate of the amount of switching mileage that makes a reasonable allowance for time spent at stations in unloading less than carload freight and also computes the switching mileage on the basis of six miles an hour instead of sixteen miles, will more nearly approximate the truth than an estimate that does neither of these things. And it is equally clear that the mileage basis on which the common property is to be divided should not include mileage that is not made on the common property, but on exclusive freight property, and that, as the switching mileage is mostly made in the freight service a considerable portion of it is made on

exclusive freight tracks. Exactly what portion of it is so made, it is impossible to determine and very difficult to estimate, as all switching operations involve more or less use of the common property from or onto which the cars are switched, and on which the locomotive must do more or less traveling in accomplishing the switching operations. But an estimate which makes a reasonable allowance for mileage on exclusive freight tracks will approximate the truth more nearly than one that does not make such allowance, and should, therefore, be preferred to the latter.

As furnishing such a preferable modification of the straight mile basis, the complainant presents an estimate in which it undertakes to make such reasonable allowances and corrections and by which they arrive at a division of the common property in which, for the year 1913, 57.01 percent is assigned to freight and 42.99 to passenger, and for the average of the four years 57.52 to freight and 42.48 to passenger.

The allowances made in this estimate seem to be reasonable and the estimate thus presented I find to be a fair approximation of the amount of mileage to be included on account of switching operations as part of the train mile basis of division.

I will now explain in detail how the ratios above mentioned are arrived at, using, in illustration, the figures of the year 1913.

The purpose of the modification of the straight revenue train mile basis is to add to the number of revenue passenger and revenue freight train miles, respectively, a proper number of miles to represent the miles made by engines in switching operations in each service. The accounts kept by the complainant in accordance with the accounting rules of the Interstate Commerce Commis-

sion divide switching into two classes, one called road switching and the other yard switching.

Road switching is the switching done by road locomotives at way stations in connection with their business of delivering and receiving freight thereat. Under these accounting rules, this road switching is calculated at six miles per hour for all the time spent by the train at a station above one hour.

Yard switching is the switching done by switching locomotives at the terminals where they are employed, estimated by reckoning the time such engines are in service at six miles per hour.

It is obvious that, under these switching rules, no attempt was made to estimate the actual miles of road switching, because, even if switching were done at a station, it would not be reported except for the excess time above one hour. It becomes necessary, therefore, to estimate the actual road switching.

It appears undisputed from the evidence that of the total elapsed time between terminals of all freight trains (other than trains carrying ore to the Marquette docks) 32.2% is spent at stations doing switching, unloading less than carload freight, waiting for leaving time, or waiting for orders. The exact proportion of this time at stations actually spent in switching operations is not directly shown, and must therefore be estimated, but it appears that for a considerable portion of the time while package freight is being unloaded, or the train is waiting for its leaving time, or for orders, the locomotive is doing no switching, but is idle, and it would seem a very conservative estimate to figure this idle time at 15%, leaving 85% of time during which the locomotive is estimated to be actually engaged in switching operations.

To get the time consumed in road switching, it is necessary to convert this 32.2% stationary time into terms of

hours. If we consider the entire road time as 100% and the stational part there of at 32.2%, the running time will be the difference between these two percentages, or 67.8%. This 67.8% of time is consumed in running 804,917 miles, being the total revenue freight train miles less the mileage of ore trains, which do no stational work. As the average speed of these freight trains is sixteen miles per hour, this 804,917 miles represents 50,307 hours running time. The total time, therefore is 74,214 hours. 85% of the stational part thereof is 20,321 hours and the total number of road switching miles reckoned at six miles per hour is 121,926.

*Recapitulation.*

Revenue freight train miles.....	865,096
Deduct ore train miles.....	60,179

---

Freight train miles other than ore.....804,917

Entire time of freight, other than ore trains.....	100%
Time at stations of freight other than ore trains.....	32.2%
Running time of freight, other than ore trains.....	67.8%

804,917 miles at 16 miles

per hour .....= 50,307 hrs. running time.

$50,307 \div 67.8 \times 100$  .....= 74,214 hrs. total time.

32.2% of 74,214 hours .....= 23,907 hrs. time at station.

85% of 23,907 hours.....= 20,321 hrs. switching time  
at stations.

20,321 hours at 6 miles per

hour .....=121,926 mi. switching miles  
at stations.

From this computation, it appears, therefore, that the number of switching miles at stations is 121,926. But these road switching miles, however, are not all per-



formed on the common tracks, as a great and presumably the greater part of the switching is done on exclusive freight tracks which have been allocated to that service and do not comprise any part of the common property. As there are no exact figures in the record to show the proportion of switching done on the common tracks as compared with that which is done on exclusive freight tracks, it is necessary to estimate that proportion; and I have made such estimate, basing it on the assumption that the same amount of switching is done per mile of common tracks used in switching operations at stations as is done per mile of exclusive freight tracks, an assumption which, although it may appear arbitrary, is a reasonable one and at least fair to the defendants, for the reason that the evidence shows that the greater part of this switching is necessarily done on exclusive freight property.

I have, therefore, on this assumption, computed the proportion of road switching done on the common tracks from the evidence in the case, by taking the total mileage of exclusive freight tracks at all stations on the road (except the five stations where the switching is done by yard engines) and the total mileage of common tracks used in switching operations at such stations, and find that such mileages are in proportion of 59.13% freight and 40.87% of the 121,926 road switching miles was done on common tracks, amounting to 49,811 road switching miles.

The switching miles made in the different yards of St. Ignace, Marquette, Ishpeming and Negaunee (one yard for both places) and Houghton, are shown by the testimony. There are no separate figures given for the switching in the Soo yard, as the switching there is done by one organization which does all the switching for three railroads. I have assumed that complainant has

the same amount of switching there as at St. Ignace, an assumption which is at least fair to the defendants, as complainant's volume of business at St. Ignace is greater.

I have computed, from the evidence, the proportion of the mileage of common tracks in each of said yards to the total mileage in said yards, and proceeding on the same assumption which I made for road switching, that the same amount of switching is done per mile of common tracks used in switching operations as is done per mile of exclusive tracks, I have divided the switching miles made in each of these yards on the track mileage proportion in such yard from which division it appears that of the 347,207 yard switching miles made in 1913, 111,475 miles were made on common tracks. I have divided these yard switching miles between passenger and freight on the proportions of 3.9% passenger and 96.1% freight, these proportions being agreed upon by the parties as representing the relative passenger and freight proportions of yard switching.

The following table, with the above explanation, shows how this modified train mileage ratio is arrived at, using the figures of the year 1913:

Freight revenue train miles (including ore) .....	865,096
Freight road switching, on common tracks .....	49,811
Freight proportion yard switching on common track .....	107,228
<b>Total freight train miles .....</b>	<b>1,022,135</b>
Per cent of total miles, 57.01.	

Passenger revenue train miles .....	766,394
Passenger proportion yard switching	
· on common tracks .....	4,247
<hr/>	
Total passenger train miles .....	771,641
Per cent of total miles, 42.99.	

The above method of computing switching miles made on common tracks is criticised by defendants on the ground that, at certain stations which they point out, too small an amount of common track has been assumed as being used in switching operations. To see if this criticism is of vital importance, I have caused a re-computation to be made, in which computation I have doubled the mileage of common track as theretofore taken by me at such enumerated stations, and I find that the result would be a change of little more than one-tenth of 1% in the final ratio. I therefore find that the error, if any, is so slight as to be negligible.

I have also worked out a modified train mileage ratio for each of the three other years, the accounts of which are in evidence. To do this, I have taken the freight revenue train miles and the passenger revenue train miles for such years and have added to each the relative switching miles made in each service in 1913 as above found. I have done this for the reason that the year 1913 is the only year for which the figures are in the record for making the computation of switching miles. While this method for the other years is not exact, the margin of error is slight and I believe that such ratios, as so found, are conservative and fair and sufficiently accurate for the purposes in hand. These ratios for the other three years are

1910.	Passenger.....	41.48%
1911.	Passenger.....	44.08%
1912.	Passenger.....	43.52%

I have adopted the average of the ratios of all the four years rather than the ratio of any one year, as representing more stably the use of the common property by the two services. This average ratio is passenger 43.02, which I find to be the proper ratio for the division of the common property, which has not been otherwise divided as hereinbefore explained.

(Note: This average ratio is hereinafter discarded and that of 1913 adopted instead for the reasons set forth in the discussion of Objection 10, *infra*.)

In the foregoing discussion, I have deemed it unnecessary to refer at all to any of the various other methods that have been from time to time put forward for the division of the common property. All such other methods may be regarded as eliminated from this case by the fact that both the parties accept the movement of revenue trains as the use of the common property that is to be measured in each service, and differ only as to the method of measuring that use, and the only question involved is that of choosing between the two methods proposed.

---

The foregoing use of the modified revenue train mile ratio suggested by the complainant for the division of certain property used commonly in the passenger and freight service is the subject of defendants' Objection No. 10. The objection has two subdivisions, "(a)" and "(b)", and I consider them in their order.

(a) This objection is that I failed to use for the division of common property the time basis suggested by the defendants in their modified revenue train mile ratio. I do not see any reason for changing my views on these two subjects as expressed in my tentative report.

(b) The general objection is that the modified revenue train mile ratio I have used attributes too great an amount, volume and value of property to the passenger business, and consequently too small an amount, volume and value of property to the freight business.

There are eight subdivisions, as follows:

(1) The allegation is that the modified revenue train mile ratio used by me does not give effect to the time, value or amount of use by the respective services. Insofar as this objection is intended to urge that a time ratio should be used, I have covered in it what I have already said.

Insofar as the objection states that my ratio fails to give effect to the value of the use by the respective services. I think it is in error. The purpose of the ratio is to measure the relative amount of use of common property in the respective services, and in my judgment, when the amount of use is determined, the value of the use is at once determinable. I am unable to see how the value of the use could be determined in any other way, unless the earnings made in the respective services should be used for that purpose, and this the decision in the Minnesota Rate Case forbids.

(2) The claim is that the percentage of the time of freight trains engaged in stational service used in the computation of my ratio is 32.2%, while the testimony shows that the correct percentage is 36%.

In this claim I find that the defendants are correct, although 32.2% is the percentage which they used in constructing their own modified revenue train mile ratio. I have corrected my ratio using 39.01%.

(3) The objection is that in the construction of my ratio, it was assumed that of the stational time, 15% is time during which no engines nor cars are moving on the common tracks. I am convinced that this assumption

tion was fully justified by the testimony, and is a moderate estimate. Nevertheless, I have concluded to modify my ratio by assuming that freight trains engaged in stational service are using the common property during all the stational time.

(4) and (5) In each instance the objection is that in the construction of the ratio, too great a mileage of exclusive freight track and too small a mileage of common track is used. There is also the further objection that there is error in the assumption that the volume of use per track mile is the same for both common and exclusive tracks.

There is no suggestion by defendants as to the extent to which they claim I have failed to include enough common track.

I find from the stenographer's report of their oral argument that they there insisted that the allowance of 528 feet for common track used for switching operations at small stations was too small. I have decided to recompute my ratio so as to double the allowance of common track at these stations.

The exclusive freight track mileage is a mere matter of computation from the evidence, as is the common trackage in yards. I find an error in the computations due to the fact that I included in the list of exclusive freight tracks, certain spur tracks on which the complainant's engines performed no switching movements in 1913, viz., the "Michigamme Mine," "Danaher," "Northern Cooperage," and "Danber" branches.

This change by doubling the allowance of common track at certain stations and deducting those freight tracks, results in a change in the proportion of common and exclusive tracks used in road switching from 40.87% common to 49.7%.

The methods of operating the complainant's railroad



have been very fully shown in the testimony. The location of industrial tracks of all kinds, their length and the manner in which they are used is in the evidence, and the only conclusion I can draw from all this evidence is that my finding of an equal volume of use per mile of the common and exclusive tracks is one in which, if there is error, it is against the interest of the complainant and not against the defendants.

(6). This objection is that in the adoption of my modified revenue train mile ratio, the applicable presumptions of law are reversed and the doubts in favor of the validity of the statute and the rate are resolved against the sufficiency of the rate. Here as elsewhere, I resolved all doubts in favor of the defendants, and I think I have made no unwarranted presumptions. Nevertheless, I have, in view of objections made by defendants, now gone further, and have modified this ratio in two additional particulars favorable to defendants, as hereinbefore explained.

(7) This objection is to my division of property between passenger and freight, and it states that that division, as made, is dependent solely on opinion without adequate supporting data.

This statement must refer either to the principle of dividing on the train mile basis or to my application of that principle, and in either case it is erroneous.

If it refers to the principle of division, it is erroneous, because my finding that the revenue train mile is the proper basis for such division is not based upon opinion evidence, but upon the grounds set forth at length in my previous discussion of that subject.

If it refers to my application of the principle, it is also erroneous, for the ratio I have used is certainly not based solely on opinion evidence. The revenue train mileage in the respective services was shown from actual

records kept by the complainant. A great part of the switching mileage was also shown by such actual records and the remainder of the same could be determined by mathematical calculation from proved facts. So far as the time spent by freight trains at stations was concerned, the testimony showed, and it was undisputed, that such trains were detained at stations for long but varying periods, engaged in switching operations, and the only opinion evidence on that subject was given by employees working on such freight trains as to the extent of the stay of the various classes of freight trains at these intermediate stations. Some gave their judgment from their general knowledge, based on experience, and others on such general knowledge supplemented by actual test observations.

I can, therefore, see no ground for this objection.

(8) The objection here appears to be a repetition in general form of the specific objections hereinbefore considered, and as such it calls for no further discussion.

The result of the changes above determined upon is to make the modified train mileage ratio for the year 1913 41.91% instead of 42.99%.

The corresponding ratios for the other years are: 1910, 40.45; 1911, 42.94; 1912, 42.36; average for the four years, 41.91.

*Division of Passenger Property in Michigan  
Between Intrastate and Interstate.*

Having made this division of the common property, I have the entire property of the complainant divided between the passenger and freight departments. It now becomes necessary to divide the passenger property between the intra- and interstate business.

It is agreed between the parties that this division may be made in the proportion which the interstate and intra-

state passenger miles, respectively, bear to the total passenger miles. Using the mileage for the year 1913, the proportion is 65.58% intrastate and 34.42% interstate. Before applying these percentages, I have deducted the passenger proportion of the value of the so-called Soo bridge and assigned it entirely to the interstate business.

Attached hereto marked "Exhibit 1" is a summary of the property values I find with the division of the same between the passenger and freight services, and of the passenger proportion between intrastate and interstate passenger business.

*Estimated Return to be Expected on Complainant's  
Passenger Property Under the Two-Cent Rate.*

I have now completed the valuation called for by the first of the three main questions in the case, viz: what is the value of the property employed in the complainant's Michigan intrastate passenger business?—and have thereby found both the total value of the complainant's property in railway use in Michigan in the year 1913 and also the value of the portion thereof then employed in the complainant's Michigan intrastate passenger service.

I now pass to the second of the three main questions, viz: what annual return on this valuation of the passenger property is to be expected under the prescribed rate?—that is to say, what would be the probable net earnings in each year of the complainant's passenger business if the two-cent rate were enforced.

This question calls for a forecast of the future, and as the only means of judging the future is by the experience of the past, we must find, in results of past experience, a reasonable basis for estimating the future. And as there has been no experience on the part of the complainant

under the two-cent rate, the only means of estimating the results of complainant's passenger business to be expected in a future year of operation under the two-cent rate it to take, as a basis of such estimate, the results of their experience in a certain year under the three-cent rate. And as the use of such results as a basis of estimate involves the assumption that those results would be approximately duplicated in the future years, except as they would be affected by the reduction in rates, the results so used should be those of such a year as would be most likely to be so duplicated. The first step, therefore, is to determine the particular year that is to be taken as furnishing such results. Such a year has been characterized by counsel as a "normal year", meaning thereby a year in which neither earnings nor expenses were so much out of the ordinary as to be abnormal. The complainant, in its bill, alleges that the year 1910 was a normal year, but that is neither binding on them nor accepted by defendants. As furnishing the data required for such a basis of estimate, the complainant has given in evidence in full detail the results of the company's operations not only for the year 1910, but also for each of the three years next succeeding,—showing its revenues and expenses and its net income both from its Michigan business and from the business of its entire system. It is upon the data thus furnished that the complainant undertakes to base its estimate of future business under the prescribed rate; and it is from these data that the question of what will constitute a normal or typical year is to be determined. With regard to this question, my judgment is that it is not the business of any particular year, either fiscal or calendar, that will furnish the most reliable basis for estimating future business, but an average of several years, neither of

which is very considerably out of the ordinary, either as regards earnings or expenses.

As regards the income of such typical year, the complainant proposes to take the average of the four years above mentioned, 1910, 1911, 1912, 1913—according to which the gross passenger income for the typical year would be \$949,102.56.

To this the defendants object, and claim that the earnings of the year 1913, which amount to \$962,324.98, should be used instead of the average of the four years. The difference between these amounts is not great or of vital importance in the case, but it involves an important principle and therefore requires to be considered carefully.

The question raised is that of a choice between assumptions. For the purposes in hand we are obliged to assume that the earnings in any one future year under the old rate will probably be a certain amount, and the question is whether it is more logical and probable that they will be the amount of 1913, or the average amount of that year with the three previous years.

As between these two assumptions, the latter is the more logical. To make the former assumption, it is necessary to assume that the annual earnings will not fluctuate but will either remain the same as in 1913, or exceed that amount. Such an assumption finds no support in past experience. On the contrary, the earnings have in the past always fluctuated, and as we are using past experience as a basis of future expectations, we are bound to presume that the earnings will, in the future, continue to fluctuate instead of remaining the same or invariably increasing.

Assuming, then, that future earnings will fluctuate as past earnings have fluctuated, we must assume also that the average of these fluctuations in future years will be

substantially the same as that average has been in past years.

For these reasons, I have taken as the amount of annual passenger earnings in future years to be the average above mentioned, viz, \$949,102.56.

As regards the amount to be taken as the expenses of the typical year, the complainant proposes to take the average of the four years mentioned as shown by the accounts of the company, but with certain modifications, and certain changes in the accounts as kept by the company, necessary to be made in order to show the true expenses. The proposed modifications and changes it is claimed are necessary because if the accounts of expenses for any year are to be used as a basis for judging future expenses, certain facts which are not shown in those accounts as kept must appear or be made to appear, which facts are as follows:

1. The amount of proper depreciation in such year.
2. That the prices paid for material in such year were substantially those which are to be anticipated in the future.
3. That the prices paid for labor in such year were substantially those which are to be anticipated in the future.
4. That the expenses of maintenance of all kinds for such year were substantially those which are to be anticipated in the future—that is, the maintenance expenses must represent only maintenance required in the year under consideration and must not include deferred maintenance which properly should be spread over a period of years.

Under these four heads, respectively, the complainant claims specifically:

1. That proper depreciation on bridges, trestles and



culverts, and all structures of every kind, must be charged in each year before the expenses of that year or the average of the four years can be adopted as a guide.

2. That the scale of wages in 1913 is shown by the evidence as being more likely to prevail in the future than the average scale of wages in 1910, 1911 or 1912.

3. That in general the prices of all material had increased in 1913 and are still increasing, and in particular that the increasing cost of ties is so definitely shown in the evidence that the 1913 price should be adopted rather than that of either of the three other years.

To this proposal for determining the expenses of a typical year, the defendants make numerous objections.

*First.* As regards depreciation, they claim that no allowance or charge should be made for depreciation in any of the four years, because, as they claim, the depreciation which would naturally occur in that year was overcome by repairs made out of maintenance expenses in that year; or, at all events, that there is nothing in the testimony that shows what, if any, depreciation took place in either year that was not overcome by the maintenance repairs of that year. This objection, if well grounded, presents a serious difficulty.

There can be no question that any depreciation in the property used, not overcome by maintenance, is a proper part of the expense of rendering the service; that in the case of a bridge or other structure, such depreciation is constantly going on to such an extent that in the course of time the structure must be discarded and replaced by a new one.

This constantly accruing depreciation amounts, of course, in the end to the entire value of the structure new; but the amount of depreciation that will have accrued in any particular year cannot be determined; it can only be

estimated by determining the probable period of life of the structure, and spreading the depreciation uniformly over the period on the assumption that the depreciation was at a uniform rate throughout the period. But the amount of this uncared for depreciation actually accruing in any particular year will depend more or less upon the amount of repairs made in that year, so that the uniform depreciation charge, may or may not in any particular year correspond to the fact.

The objection here made assumes that depreciation cannot be charged in any year unless it is affirmatively shown that the value of the structure under valuation was actually worth that amount less at the end of the year than it was at the beginning or at least shown that no part of the depreciation for that year or for any previous year was overcome by the maintenance charged for in that year. If this assumption is warranted, I am unable to see how any such depreciation charge can be made in this or in any case because I am unable to see how it would be possible to make such an affirmative showing. It is not possible to thus definitely determine the actual depreciation of any one year and divide it into two parts, one of which is overcome by the maintenance charged for that year, and the other of which is not so overcome; or to determine whether in that year any depreciation suffered in previous years was overcome by the maintenance charged for that year.

If, therefore, the defendants' assumption that such proof is required is warranted, the depreciation in question cannot be allowed. The question is not free from difficulty; but I think the assumption is not warranted—that there is no such interdependence between depreciation and maintenance as is here involved. The depreciation here considered is that inevitable progressive depreciation in the course of which the entire value of the

structure is gradually expended. The life of the structure may be prolonged by repairs and its length may depend to some extent on the amount expended in repairs, but eventually the entire value must be lost; and the amount so lost by depreciation must be spread over the period of life; and the only practicable way of distributing the loss as between the years is by assuming the depreciation to have been uniform and assigning an equal portion to each year.

The amount thus assigned to any one year may be more or it may be less than the actual depreciation of that year; and to this extent the assignment is arbitrary; and is open to the objection made by defendants that under it certain portions of depreciation may in any year be charged for twice—once as depreciation and once as maintenance. This possibility there seems to be no way of guarding against.

It results, therefore, that we are compelled to choose between disallowing depreciation entirely or allowing it notwithstanding this possibility of duplication.

As between those two alternatives, it seems to me that the latter should be preferred for two reasons: first, because it is less likely to work injustice, and second, because it is not the expenses of any particular year that is taken but the average of several years.

It would be less likely to work injustice because the ultimate loss by depreciation is an inescapable fact and an entire disallowance of depreciation is therefore certain to work injustice to the extent of the loss disallowed.

On the other hand, the danger of injustice from the possible duplication of depreciation charges is minimized by taking the average maintenance expenses of several years instead of those of any single year. The chief purpose of taking such average is to counteract the abnormalities that there may be in any particular year. In my

computations I have, however, made no allowance on account of depreciation as an expense charge, for the reason that complainant has not furnished testimony from which I am able to determine with sufficient definiteness a proper amount for such item.

### *2. Scale of Wages for Typical Year.*

To the complainant's proposal to take for the typical year the scale of wages of 1913 instead of the average scale of the four years, the defendants make several objections; one of which is, in effect, that it would involve an abandonment of the four years' average as furnishing the typical year—that if the four years' average is to be taken for any purpose it must be taken for all purposes.

This objection, I think, is well taken. I do not see how we can with any consistency take for the typical year the average experience of four years in respect to some items and the experience of one of the years in respect to other items.

It is true, as complainant claims, that judging from past experience generally, the probabilities are that wages will be more likely to go up than down, but the basis on which we are here undertaking to forecast the future is a definite particular experience, and not an indefinite, general experience; and we cannot shift from one basis to another.

### *3. Prices of Material for Typical Year.*

As regards prices of material, the complainant claims generally that the prices of all material had increased in 1913 and are still increasing; but they make no specific claim in this regard except the claim that the increasing cost of ties is so definitely shown in the evidence that the 1913 price should be adopted for the typical year.

The objection made and allowed to the preceding item

applies equally to this. Both this and the preceding items involve a misconception of the precise nature and function of the typical year in that they assume it to be an estimate made and grounded in opinion, whereas it is the basis of an estimate to be made and is grounded in fact—the facts of the complainant's actual experience. The first claim of complainant in this connection, viz: that relative to depreciation in the typical year, was allowed because the depreciation was a fact, and as such to be taken into account, and this notwithstanding that it had not been charged up on complainant's books, but the two subsequent claims are of entirely different nature. The facts there alleged are, if true, proper to be given consideration in connection with the general question as to what is to be expected in the future in view of past experience, not only in general, but also and especially in view of the particular experience of the typical year.

As bearing on the general question as to what is to be expected in the future, complainant asks me to find, and I do find, from the evidence that since 1910 there has been a substantial increase in the rate of wages paid by complainant in almost all classes of labor employed by it; that a large proportion of this increase came from a raise in wages for trainmen, and that this increase is probably permanent.

Complainant also asks me to find in this connection, and I do find, from the evidence, that since 1910 there has been a steady increase in the prices of railway supplies generally and particularly in the prices of ties.

Complainant further asks me to find, in this connection, and I do find, that it is the rule of law that a public service corporation must be allowed sufficient revenue to pay its operating expenses, to keep up its *property* and to pay a fair return on the investment; that in accordance with this rule, such a corporation is entitled to and should

charge off each year, in addition to its operating expenses, a sufficient sum to take care of the annual depreciation of its property; that the testimony shows that complainant has not, in its accounts, charged depreciation on any of its property except equipment and ore docks; and that to represent a true statement of the financial results of complainant's operations, there should be added to the operating expenses of each year, as shown by the company's books, an additional amount to take care of the depreciation on the remainder of the property on which no depreciation has been charged.

Complainant further asks me to find, in this connection, that it appears from the testimony that if the scale of wages paid in 1913 had been in effect in the preceding three years, if the tie prices paid in 1913 had been in effect in the three preceding years and if in each of the four years a proper charge had been made for annual depreciation on the bridges, trestles and culverts on complainant's road in Michigan, to say nothing of depreciation on buildings and other property, which depreciation I have not attempted to compute, the average Michigan operating expenses of those years would have been increased by \$70,159; the average Michigan passenger operating expenses would have been increased by \$21,769; and the average Michigan intrastate passenger expenses would have been increased and therefore the average Michigan intrastate passenger net income reduced by \$13,346. The statements and computations contained in this request, I regard as matters of argument and as not calling for a specific finding by the Master.

Defendants further claim that in the years 1912 and 1913, the operating expenses of complainant contain charges for expenses which were occasioned in part on account of the rebuilding of bridges, and the substitution for the old structures of better and more permanent



structures, and a general ballasting of large parts of the road in Michigan, the necessity for which was to take care of maintenance which had been deferred in previous years. With reference to the new bridges, if I correctly understand their contention, it is that the accounts were so kept that there were charges made to expenses which should have been included in the account for additions and betterments, with the result that the value of complainant's property was increased out of operating expenses. I cannot find from the evidence that there is any foundation for these claims with reference to the year 1912.

It does appear, however, that the expenses on account of the maintenance of way and structures for the year 1913 were considerably in excess of the expenses on the same account in any of the other three years. Thus, with reference to the item "Bridges, Trestles and Culverts", the expenses in 1913 were \$28,645 greater than the average for the three preceding years, and the "Roadway and Track" expenses were \$38,909 in excess of the average of these expenses for the three preceding years.

The testimony shows that the accounts of these expenses were kept by complainant in accordance with the rules of accounting prescribed by the Interstate Commerce Commission. Nevertheless, it is my judgment that under those rules, if "the cost of replacing in kind, bridges, trestles or culverts removed or abandoned" were charged to operating expenses at the cost new of such replacement in kind, instead of at their present value, it might result in too much being charged to operating expenses and too little to "Additions and Betterments."

It is also true that there was a reballasting of considerable portions of complainant's line in Michigan during the year 1913, and I cannot escape the conclusion that some of the expense was to take care of deferred mainte-

nance. I conclude therefore that defendants are right in their contention that the expenses for the year 1913 do not represent the expenses of a normal year.

All of these assumed abnormal expenses, the evidence shows, are necessarily reflected in four of the subsidiary accounts under the general account "Maintenance of Way and Structures", to-wit: "Superintendence", "Roadway and Track", "Bridges, Trestles and Culverts", and "Ballast". With reference to the accounts "Superintendence", "Roadway and Track" and "Bridges, Trestles and Culverts", I have assumed that the average of the three preceding years represents a normal year. With reference to "Ballast", I have assumed that the average of the five years, 1908 to 1912, represents a normal year's expenses on this account; and the excess charges on complainant's expenses for the year 1913 beyond these amounts, I have rejected. The amount of these deductions, and also the amounts thereof applicable to the freight and passenger service, respectively, and to the inter and intra service in each department, respectively, are shown as follows:

	Passenger	Freight	Total
Superintendence .....	\$ 4,863	\$ 7,782	\$12,645
Ballast .....	9,199	12,750	21,949
Roadway and Track.....	16,307	22,602	38,909
Bridges, Trestles & Culverts .....	12,005	16,640	28,645
		Intra.	Inter.
Freight .....	\$16,665		\$43,109
Passenger .....	27,789		14,585

Necessarily, the effect of these adjustments of expenses is to increase the net revenues of the complainant by the amount deducted.

*\$12,000 Paid to President Fitch on His Retirement.*

In the statement of complainant's operations for the year 1913, being complainant's Exhibit 67, Sheet 16, under the heading "Other Deductions", is an item of \$12,000 paid to William F. Fitch, who had been the president and general manager of the company for many years, and who retired from the presidency in December, 1911. The evidence as to the precise purpose and reason for this payment is not very clear; but it seems to have been in the nature of a substitute for what would have been allowable to him under a system of pensioning old employes, if the company had had such a system. It belongs to a class of allowances which are frequently made by railroads and other corporations as part of their general expenses, and which it is clearly within the discretion of the corporate directors to make; but whether it is an expenditure which is proper to be charged up in this case is not so clear. It does not appear from the evidence that it or any part of it was a necessary expenditure in the carrying on of the business to which the prescribed rate applies, and in any event it should not all be charged up as part of the expenses of the year 1913, or of any one year. If allowed here at all, it should be spread over a period of years and there is nothing in the evidence from which to determine what that period should be. As the item is in itself somewhat doubtful and is clearly not chargeable in its entirety to the year 1913, I am unable to see how I can allow the item or any specific part of it and have decided to sustain the defendant's objection to it, and to exclude it from my computation.

After making these adjustments of the 1913 expenses and deductions from income, I have taken as the operating expenses and deductions from income of my typical year the average of the passenger operating expenses and deductions from income of the four years, 1910 to

1913, inclusive, for the same reasons which I have given for taking the average of the revenues of said four years to make up the revenues of my typical year.

To these conclusions thus reached by me, counsel for both parties renewed the objections hereinbefore discussed (pages 268-282) and in addition, defendants made new objections, No. 11 and 12, as follows:

No. 11. "The defendants reserve the right to present an exception that such report is erroneous in its finding and determination that the gross passenger income for the four years 1910-1913, is to be taken and used for testing the validity of the statute, instead of the gross passenger income for 1913."

No. 12. "Exception is made and objection taken to the failure to find and use the average value of the complainant's property in use in its railroad business for the four years (1910-1913) for which the income and expenses are averaged and used."

The Master says (p. 226):

"If the four year average is to be taken for any purpose, it must be taken for all purposes."

In considering the defendant's objections, my first impression was that these two objections were to be considered together and that when so considered they were to the effect that the average of earnings and expenses for the four years 1910 to 1913 could not be taken as those of the typical year to be used here without taking also the average value of the property employed in those years and this latter could not be taken because we have not found the average value of the property employed in those years, but have found the value of property employed in the year 1913 only, and that therefore it is the earnings and expenses and value of property employed in that year that must be taken as constituting the typical

year. And this understanding of the objections seems to be fully confirmed by the fact that in support of the objections defendants' counsel quoted the finding previously made by me herein that "If the four year average is to be taken for any purpose, it must be taken for all purposes."

With this understanding of them, I found that the objections were well taken for the reason that it is not merely future earnings and expenses that are to be forecast, but also the relation of those earnings and expenses to the value of the property employed; and in forecasting this relation we cannot take the earnings and expenses in a certain past year arising from the use of one amount of property as a measure of what earnings and expenses will arise in any future year from the use of a larger or smaller amount of property. As it is clear that if any average of earnings and expenses (or of either of them) is to be taken, it must be accompanied by the average value of property employed in the several years entering into that average, and as we have here found only the value of property employed in 1913, the objections seemed to me to require that the year 1913 be taken as the typical year, and as I did not deem it an actual necessity to take any average year, and as both parties appeared willing to take the year 1913 as the typical year provided its expenses were normalized, I sustained these objections, adopted 1913, with expenses normalized, as the typical year, and made all subsequent estimates and calculations accordingly.

Afterwards, defendants' counsel, having been advised by me of my understanding and treatment of these objections, informed me that such was not intended by him to be the effect of the objections, and explained that his intention therein was to object not to the use of the average of expenses for the four years but only to the use of the

average of gross earnings; and that the effect intended to be accomplished by the objections was to require that the typical year be made up by taking the average expenses of the four years and combining them with the earnings and property of the year 1913. It appears, therefore, from this explanation, that the purpose of these objections was, not as supposed by me, to require that the results of 1913 be taken as those of the typical year, but that the earnings and property only of 1913 be so taken, and that for the purposes of a typical year, these latter should be combined with the average expenses of the four years, those of 1913 being first normalized for that purpose.

Insofar as these objections seek to accomplish this purpose, I am unable to see how they can possibly be sustained. It would be in direct conflict with the principle above referred to that if an average year is used for any purpose it must be used for all purposes. That principle has been adopted and strictly adhered to in this report, and has been repeatedly recognized and appealed to by counsel on each side; and it is a principle about which there can be no question. In fact, it is this very principle that is invoked by defendants' counsel in these two objections—the objections being directed against the average year which I had adopted and being made upon the ground that the average of earnings and expenses of the four years cannot be taken without taking also the average of property employed in the same years, which is, of course, a practical application of the principle that if an average is taken for any purpose, it must be taken for all purposes.

I am therefore virtually asked first to sustain these objections on the ground that I erred in finding a typical year by taking an average of earnings and expenses for a number of years and combining them with the property



of a particular year, and, second, having thus corrected this error, to proceed to commit the same error by taking for the typical year an average of expenses for a number of years and combining them with the earnings and property of a particular year and thus involving a glaring inconsistency.

But, aside from this inconsistency, it is perfectly clear that we cannot take separately for the typical year either the earnings, expenses, or property of one year and combine them or it with either the earnings, expenses or property of another year. And it is therefore clear that these objections insofar as they claim that average earnings and expenses of a number of years cannot for the purpose of finding a typical year, be combined with property employed in a single year, must be sustained for the reason already stated, and that for precisely the same reason, it is equally clear that the objections insofar as they claim that the typical year should be made up by combining the earnings and property of 1913 with the average expenses of the four years must be overruled.

These objections having been thus disposed of, it remains to consider how the typical year already adopted is thereby affected. As already stated, the year 1913, with expenses normalized, was taken by me as the typical year and all estimates and calculations made accordingly, on the understanding that the defendants desired it and the complainants were satisfied with it. It now appears that the defendants do not desire it, but desire instead the composite year combining average expenses of the four years with earnings and property of 1913, so that it comes to a question of choice between such composite year and the year 1913. As between those two, there can be no hesitation in choosing—the one is impossible, while the other is practically unobjectionable, and is, I think, the best that is here available. True, as a general princi-

ple, the average results of a number of years afford a safer criterion by which to forecast future results than do those of any particular year, but they do not always do so, and in this case, their superiority to those of 1913, if anything, would be too slight to be of any consequence. It would be possible, in this case, to use an average of three years as we have the earnings and expenses of 1911, 1912, and 1913, also the property value of 1913, and could probably find from the testimony the property values for 1911 and 1912; but those property values have not been found by me, and in view of the results of those years as found, I can see no good reason for finding and adopting as those of the typical year the average results of those three years, in preference to those of 1913, with expenses normalized.

My conclusion, therefore, upon the questions involved in those objections is that the average results of four years formerly adopted by me as the typical year was erroneous for the reason stated; and that the results of the year 1913, with the expense normalized, are to be taken and used instead as those of the typical year for the reason that under the circumstances they may, without injustice to either party be taken as those most fairly typical of the results that are to be expected in future years.

---

*Results of Complainant's Past Operations in Michigan,  
1910—1913.*

Complainant has offered in evidence in great detail the results of its operations for each of the four fiscal years, 1910 to 1913, inclusive, showing its revenues and expenses, and its net income, both from its entire system and from its Michigan business.

Except as to a few comparatively small items, there is

no dispute as to the correctness of the figures, but there are substantial differences between the parties as to the proper division of revenues and expenses between the freight and passenger departments, and between intrastate and interstate freight and passenger.

Attached hereto, marked Exhibits 2, 3, 4 and 5, is a statement of the results of complainant's Michigan passenger operations during each of the four years named as I have found them.

The methods used by me in making the various divisions of revenues and expenses and my reasons therefor will be explained.

But before entering upon such explanation, it is desirable to dispose of certain questions raised by the defendants in relation to complainant's revenues and expenses, as follows:

*(1)—Sleeping and Dining Cars.*

The defendants claim that these two services are "Outside operations", meaning by "outside operations", operations outside of the passenger business to which the prescribed rate applies—and that therefore the operating expenses of these facilities must be excluded from complainant's passenger expenses before the true passenger expenses can be determined.

This claim of the defendants applies equally to both the sleeping cars and the dining cars, but the two kinds of cars involve different considerations, and they will therefore be considered separately.

*Sleeping Cars.*

With regard to the sleeping cars, the complainant claims that their earnings and expenses should be included as part of the service to which the prescribed rate applies, but would be willing to consent that they be

treated as outside operations and their earnings and expenses properly chargeable to that service be excluded, if it is also understood that the railway fares received from passengers carried in sleeping cars are part of the earnings of the sleeping cars and as such are excluded from consideration as passenger earnings; but it denies that it is possible to ascertain those earnings and expenses, either from the testimony or from their records.

But this concession would not satisfy the defendants. They claim that the sleeping cars and the fares received for berths and seats should be excluded from the passenger revenues, but that the fares received in them for railway transportation should be included as part of the return on the property required for the transportation of passengers, because of the alleged fact that the passengers paying those fares could have found ample accommodation in the day coaches of the train on which they were riding; that the company were under no obligation to carry these passengers in sleeping cars, but so carried them voluntarily and of their own motion; that they thus unnecessarily supplied double accommodations for these passengers, and that the public cannot be required to pay for both accommodations but only for that which was provided in the day coaches; that these passengers would have used and paid for accommodations in the day coaches if the company had not provided those in the sleeper, and that the company cannot thus deprive the public of the right to be credited with these fares by voluntarily providing other accommodations outside and inducing passengers to use them.

The position thus taken by defendants assumes that the Legislature in legislating with reference to sleeping cars has treated the operation of such cars as an operation outside of and not a component part of the business of transporting to which the prescribed rates applies;

also, that in enacting the statute in question, the Legislature intended to deal with and prescribe for the business of transporting passengers in day coaches only and treated it as a business wholly separate and distinct from the business of transporting passengers in sleeping cars. Is such assumption warranted?

Assuming that it would be competent (as it undoubtedly is) for the Legislature to so fix the status of the sleeping car service and also that of the transportation service in day coaches that the former service will be an operation outside of the transportation service to which the prescribed rate applies, is it a fact that the Legislature has done so? Does it appear from the statutes on the two subjects that such was the intention of the Legislature?

These statutes are two in number, i. e., that of 1875, authorizing the operation of sleeping cars and the sale of berths and seats therein, and that of 1911, prescribing the rate in question. The statute of 1875 is as follows, being Sections 5252-3 of the Compiled Laws of 1897:

Section 1. The People of the State of Michigan enact: It shall be lawful for any railroad company operating any railroad within this state, to construct or use for the transportation of passengers, sleeping cars, parlor cars, or chair cars for the use of such passengers as may desire to use the same, and such company may make such reasonable rules and regulations concerning the use of these as such company may think proper, and may charge a reasonable compensation for such use, in addition to the regular passenger fares allowed by law.

Section 2. Nothing herein contained shall release any such railroad company from its obligations to furnish first-class passenger cars for the use of the

public for the regular passenger fares now fixed by law.

In this statute I am unable to discover any intention to make the operation of sleeping cars an operation distinct from and outside of the business of transporting passengers. On the contrary, it seems to me that the statute clearly evinces an intention to make the operation of sleeping cars a component part of the business of transporting passengers—that the permission there given was not a permission to institute and carry on an outside operation for the purpose merely of furnishing sleeping facilities, but was rather a permission to operate sleeping cars in connection with, and as a part of, their passenger trains for the purpose of transporting therein such passengers as might desire to avail themselves of and pay extra for the special accommodations thus furnished in connection with their transportation. The railroads might lawfully have installed and operated such cars without such legislative permission, but probably could not lawfully have refused to permit a passenger to ride in them without the payment of a sum in addition to the regular railway fare then prescribed. To authorize the railroads to require such extra payment as a condition of riding in these cars seems to have been the chief moving cause of this statute. But be that as it may, the statute treats the operation of sleeping cars as a part of the business of transporting passengers, and evinces no intention to regard it as an operation outside of that business.

Turning now to Act 276 of the Public Acts of 1911, the Act complained of in this case, I am in like manner unable to find therein any evidence of an intention on the part of the Legislature to make the sleeping car service an operation outside of the passenger service to which the prescribed rate applies, but find, on the contrary, what seems to me an evident intention to treat the sleep-



ing car service as a component part of the business of transporting passengers.

The statute, or the particular portion of it that concerns us here, is as follows:

“Every such corporation shall possess the general powers and be subject to the liabilities and restrictions following; that is to say: • • •

Ninth: To regulate the time and manner in which passengers and property shall be transported and the tolls and compensation to be paid therefor; but such compensation for transporting any passenger and his or her ordinary baggage, not exceeding in weight 150 pounds, shall not exceed the following prices, viz: for a distance not exceeding five miles, three cents per mile; for all other distances for all companies the gross earnings of whose passenger trains as reported to the Commissioner of Railroads for the year 1906 equaled or exceeded the sum of \$1,200 per mile for each mile of road operated by said company, on which regular passenger service is maintained, as hereinafter provided, two cents per mile, and for all companies whose earnings reported as aforesaid were less than \$1,200 per mile of road operated by said company, three cents per mile: Provided that in the future, whenever the earnings of any company doing business in this state as reported to the Railroad Commission at the close of any year shall increase so as to equal or exceed the sum of \$1,200 per mile of road operated by said company, then in such case said company shall thereafter, upon the notification of the Railroad Commission, be required to only receive as compensation for the transportation of any passenger and his or her ordinary baggage, not exceeding in weight 150 pounds, a rate of only two cents per mile as here-

inbefore provided: \* \* \* Provided further that no company shall charge, demand or receive any greater compensation per mile for transportation of children of the age of twelve years or under than one-half the rate herein prescribed. \* \* \*

Now, if it had been the intention of the Legislature in enacting this statute to deal separately and specifically with the business of transporting passengers in day coaches in the ordinary manner, the provisions of the statute would, of course, have been made applicable in terms to that particular business, separately and specifically. Instead of being so made applicable, the provisions are made to apply to the entire business of transporting passengers both in day coaches and in sleeping and chair cars, without distinguishing in any way between the businesses carried on in the different classes or kinds of cars. In either kind of car the transportation charge is to be the same.

Not only so—not only is the entire transportation of passengers treated as one business, but the entire passenger train service also is so treated, even to the extent of making it the basis on which the applicability of the new rate is predicated. In prescribing the conditions under which the new rate shall or shall not be applied, it is the amount of earnings that is made the determining factor and the earnings on which that determination is predicated are not merely the earnings of the day coaches in the passenger trains, but the earnings of the entire train, including the sleeping cars. For the purposes of this case, we are required to presume that the legislature in prescribing the rate and the conditions under which it was to be applied, investigated and determined the conditions under which the rate to be prescribed would yield a fair return on the value of the property employed in producing it, and having deter-

mined those conditions, prescribed them in the statutes. The judgment which we presume that the legislature thus formed is found in the statutes and it is this, that when the gross passenger train earnings amounted to as much as \$1,200 per mile of road operated, the two-cent rate will yield a fair return on the value of the property employed. Now does this mean the property employed in earning the \$1,200 per mile of road operated, or in earning the two-cent per mile of each passenger carried? Or does it, or can it mean both? It must manifestly mean the former, whether it means also the latter or not. The fact of earning the \$1,200 is made the ground for reducing the passenger rate and it certainly could not be made such ground if it did not yield a fair return on all the property employed in earning it. So that if it means also, what is claimed by defendants in effect, that the two-cent rate will yield a fair return on the specific property employed in earning it, and that that property consists entirely of day coaches and a part of the baggage car and the properties assignable thereto, it must be by inference drawn from the former. But no such inference is possible. The fact that \$1,200 per mile can be earned by the use of the entire property of the train furnished no ground for any inference as to what return the passenger earnings will pay on that part of the property in the train that is devoted to the transportation of passengers, and there is no indication that the legislature undertook to draw such inference.

The only judgment which the legislature can be found to have pronounced is that when the passenger train earnings reached \$1,200 per mile, the passenger earnings under a two-cent rate, together with the other earnings of the train, will yield a fair return on the entire property assignable to the passenger train service. In this judgment the legislature does not undertake to distin-

guish between the passenger transportation service in the day coaches and that in the sleeping cars, but deals with the passenger service in its entirety.

I therefore find that the entire business of transporting passengers, whether in sleeping or other cars, is one business, and that in no proper sense can the sleeping car business be considered an "outside operation".

But from this conclusion, it does not follow that the complainant, under this permissive statute, may transport passengers in sleeping cars in such a manner as to burden its other business with expenses which would not be incurred if passengers were not so transported, and then have these burdensome expenses treated as part of the necessary expenses of its passenger business in determining whether the rate of return allowed under the act herein in controversy allows a fair return upon the property employed in passenger transportation.

The parties to the litigation are in accord on the proposition that the transportation of passengers in sleeping cars must not thus burden the other passenger business. But they are in sharp disagreement as to whether the transportation in sleepers does burden the other business, and as to how the question of whether there is such burden or not shall be determined, and if there is such burden, as to the amount thereof.

The following table shows for the years 1910 to 1913, inclusive, the gross revenue received from the sale of berths and seats, the expenses and the net revenue:

1910.....	\$ 25,803.21	\$14,060.06	\$11,743.15
1911.....	26,262.23	14,548.14	11,714.09
1912.....	26,685.83	17,506.87	9,178.96
1913.....	30,243.11	17,911.30	12,331.81
	<hr/>	<hr/>	<hr/>
	\$108,994.38	\$64,026.37	\$44,968.01
Average.....	\$ 27,248.59	\$16,006.59	\$11,242.00

In these expenses are included all the expenses directly incurred in operating these cars, such as the salaries and expenses of superintendents who look after the service, the wages of sleeping car conductors and porters, the cost of maintenance depreciation and insurance of the cars, and stationery and printing, but they do not include any of the expenses incident to the transportation of the cars as a part of a train, or incident to the maintenance of the other general passenger property of the company. The value of the sleeping cars assigned to Michigan, owned by the company, I have found to be \$65,566.00.

The revenue received by the complainant for the transportation of passengers in the sleeping cars cannot be determined with certainty, for the reason that they have never been separated from the other passenger transportation earnings in the accounts of the complainant.

The complainant contends, however, that the court may take judicial cognizance of the fact that such earnings would be at least three times the amount received from the sale of seats and berths, which would make the average receipts for the transportation of passengers in those cars over \$80,000 per year. If it were necessary, I think I would be justified in so deciding.

It is the claim of the complainant that if these earnings are in excess of the extra cost involved in hauling the sleeping cars, then the sleeping car business of the company, that is, the business of transporting passengers in sleeping cars and furnishing them sleeping berths or seats, is carried on at a profit and the other passenger transportation business of the complainant is not burdened, but, on the contrary, helped. By "extra cost" the complainant means any operating expenses other than those of "outside operations" which the complainant could escape if it carried on its passenger transporta-

tion business only in day coaches, and used no sleeping cars.

The defendants, through their witness, Mr. Thompson, an expert accountant, introduced evidence from which the expenses assignable to the operation of the different classes of cars used by the complainant in its passenger train service can, for the years 1912 and 1913, be fairly approximated by the use of formulas prepared by Mr. Thompson, which take into consideration the weight of the different cars and the miles run by them. I shall later more fully explain these several formulas. For my present purpose it suffices to say that by Mr. Thompson's method, it is possible to estimate for the sleeping cars, the extra expense above referred to for each of the years named. In the year 1912, this extra expense was \$39,346 and for 1913 \$38,968. In estimating this extra expense, there is excluded all of the 60% of the maintenance of way expenses, which are admittedly entirely attributable to deterioration on account of the elements, as hereinbefore explained. Of transportation expenses, there are excluded all of the expenses of superintendence and of dispatching trains; the wages of road enginemen; the expenses of interlockers; engine house expenses, road; the wages of road trainmen; crossing flagmen and gatemen; telephone and telegraph operation; damage to property; damage to live stock; injuries to persons; other expenses; stationary and printing; also there is excluded that portion of fuel, water, lubricants and other supplies for road locomotives which Mr. Thompson's formulas attribute to the weight of the locomotive, and all the expenses which are included under the general account "General Expenses", as none of these expenses could be saved or appreciably reduced if the use of sleeping cars were discontinued.

The result of these estimates leads me to the con-



clusion that so far from being a burden on the passenger business, the operation of these sleepers is a distinct benefit to that service, unless the defendants' contention is sound that I must assume that if the sleepers were not run, the passengers transported therein would be transported in day coaches at much less expense, which subject will be considered later.

The claim of the defendants in regard to the railway fares earned in these sleeping cars is substantially this: they claim, first, that under the statute of 1875, railroads are not required to furnish sleepers or to transport passengers therein; that if the railroads did not transport passengers in sleepers, the passengers who travel therein would travel in day coaches, and that on this particular railroad, the average loading of the day coaches is so small that all the passengers carried in sleepers could and would be carried in the day coaches, and that therefore a pro rata share of all the expenses of carrying on the passenger business of the complainant, except the "Traffic Expenses", must be charged against the sleeping cars. To assign the expenses, they adopt the formulas hereinbefore referred to, prepared by Mr. Thompson.

It therefore becomes necessary to describe these formulas or ratios, and to consider the soundness of the defendants' contention with reference to their application.

Mr. Thompson first assumes that there are five distinct businesses carried on on complainant's trains; the first business is the transportations of passengers in day coaches, including their baggage; then the sleeping car business; then the dining car business; then the mail business; and then the express business.

He determines as between baggage and mail and express, the relative floor space occupied by each in the baggage cars and then assigns on this relation to baggage

and to mail and express a portion of the weight of those cars and their loading. Thereafter, he treats the weight assigned to "Baggage" as part of the weight assignable to passenger service, but the remaining weight of the baggage cars is treated as the only weight assignable to the mail and express. The weight of the "Sleepers and Diners" and their loading is assigned to the business "Sleepers and Diners", the weight of all the passenger cars and their loading, plus the weight previously assigned to baggage, is assigned to the "Passenger and Baggage" business. These respective weights are then multiplied by the total number of miles which each class of cars respectively is transported during the year, and the respective totals show the "gross ton miles" assignable to each business: "Passenger and Baggage", "Mail and Express" and "Sleepers and Diners". From these totals percentages are calculated upon which, as I have said, the bulk of all the passenger expenses are divided.

The bulk of the expenses, not divided on the ton mile ratio, are divided on the car mile ratio, which ratio is derived from the mileage run by the different classes of cars, without reference to their relative weights. There are also minor ratios used for the division of certain expenses, which are relatively small in amount. These ratios, I think need not be here described. Also there are certain expenses which Mr. Tompson divided upon the basis of the results arising from the divisions made by the application of the ratios.

The result of the application of this method of dividing the expenses attributed to the Michigan passenger service as the same have been determined by me would be for 1912.

1912.—*Total Michigan Passenger Expenses*—\$601,696.

Assigned:

	Percent
Passenger and Baggage .....	\$409,000=57.98
Mail and Express .....	65,250=10.84
Sleepers .....	95,789=15.92
Diners .....	31,657= 5.26
	<hr/> 100.00

1913.—*Total Michigan Passenger Expenses*—\$631,934.

Assigned:

	Percent
Passenger and Baggage .....	\$408,757=64.68
Mail and Express .....	69,815=11.05
Sleepers .....	92,263=14.60
Diners .....	61,099= 9.67
	<hr/> 100.00

As applicable to the determination of the sleeping and dining car expenses, in accordance with Mr. Thompson's theories, defendants' counsel say in their printed brief:

"It is claimed that to discontinue this service and take off the cars engaged in it would not reduce the expenses to the extent to which Thompson has apportioned them against it, and that the putting on of the service and cars does not increase the expenses to that extent. This we admit to be true, but that is no argument which complainant can raise against the practice. If it is an argument against the practice of Thompson, it is clearly an argument against similar practices of complainant \* \* \*".

Faulty methods urged by complainant for the division

of expenses it would be my duty to reject; it would not justify me in the adoption of a faulty method in this matter, and the method is in my judgment faulty, so far as it relates to sleeping cars, in these particulars:

It assumes that sleeping cars are provided merely as places in which to sleep and puts them in the same category in which lodging houses would be put if such were provided by the company. It ignores the fact that sleeping cars are primarily and principally instrumentalities for transportation and that their facilities for sleeping are merely instrumentalities for transportation by increasing the comfort with which passengers can be transported. In order, therefore, to determine the expense properly chargeable against these sleeping cars, on account of the facilities which they furnish for sleeping, there must be an apportionment upon some fair basis which distinguishes between the use of the cars for transportation and their use as a facility for making transportation more comfortable.

In my judgement, if the theories of Mr. Thompson and his ratios are to be used for the purpose of determining whether the furnishing of the sleeping facility is a burden, they must be used in such a way that while attributing to the sleeping facility every expense which it adds to the transportation of passengers in ordinary cars, they shall not relieve that business from any expense which it would not escape if sleeping cars were not used. The chief reason urged for the assertion that these sleeping cars burden the other transportation business is that they are heavier than the ordinary coach. This is true, I think, therefore, that a reasonably fair test of the burden, if there be one, caused by the extra weight may be determined by assigning to the passenger transportation business, of the weight of each sleeper, the average weight of one passenger coach used on complain-

ant's road in the trains on which such sleepers are carried, and treating the remaining weight of the sleepers as devoted to the sleeping facility, and then determining the extra expense due to transporting the weight thus assigned to the sleeping facility.

I have caused calculations to be made on this basis, using Mr. Thompson's ratios and methods exactly as he uses them, but applying them to the Michigan passenger expenses as I have determined them, and the result is to show an extra expense due to the sleeping car business for the year 1912 of \$9,403, and for the year 1913 of \$9,313.

If we compare these expenses with the net revenue from the sale of berths and seats in sleepers heretofore shown, it might be claimed that the sleeping car service of the complainant was a burden on its other passenger transportation business in the year 1912 to the extent of \$224 in added expense, and that no return was earned upon the proportion of the value of the sleeping cars which should be assigned to the sleeping car facility.

To determine this value, I have assigned to the business of transportation, such portion of the average value of the sleeping cars as is the equivalent of the average value of the complainant's passenger coaches run in the trains in which complainant's sleepers are carried. This will assign to the sleeping car facility \$34,531 of value out of the total of \$65,566.

If, however, from the above computations, we should conclude that the running of sleepers is a burden on the other passenger transportation business, it would be because we disregarded entirely the reason for the service, and the incidental benefits accruing therefrom to complainant's passenger business as a whole.

That there is such benefit, the undisputed testimony in this case established beyond possibility of contradiction. Thus the defendants' witness, Mr. Thompson, who testi-

fied that, as a matter of cost accounting, the method for which the defendants contended was the proper method, upon his cross-examination, testified:

Q. How about the sleeping car—if they discontinued the sleeping car, don't you think it would be very bad business?

A. Yes, I think it would.

Q. Don't you think if they discontinued the dining car and sleeping car in this territory, competitive as it is, that it would ruin their business—utterly ruin them and wreck them?

A. You mean as a whole railroad or to do with the intrastate passenger business?

Q. Passenger business as a whole.

A. I take it as to their passenger business as a whole they could not do it.

Q. It would ruin them wouldn't it? Ruin their business?

A. I am not expressing an opinion as to what would ruin them.

Q. You think it would result in heavy loss and it would be unjustified?

A. I think it would be bad business.

Q. Very bad—it would be foolish, wouldn't it?

A. Probably it would.

The evidence shows that a very large part of the public served by complainant's railroad are in centers where there is active competition with other railroads which furnish sleeping car service. This is not only true of interstate business, but it is largely true of intrastate business. Every passenger who travels either inter or intra on complainant's road when otherwise he would travel on some other road, manifestly brings a profit to this road if the amount he pays for transportation exceeds his proportion of the expenses of running the train



on which he rides, because the other charges have to be incurred in any event.

On a road like complainant's, where there are no trains devoted exclusively to the carrying of interstate passengers, but where both inter and intra passengers are carried on the same trains, any inter passenger who travels on this road where otherwise he would travel on some other road, helps to decrease the cost of the transportation of intra passengers to the extent that the fare paid exceeds the passenger's proportion of the actual train expenses of the train on which he rides. These things are axiomatic.

There must also be other benefits accruing from the use of the sleepers. Can it be doubted that many people ride in the day coaches during the daytime, who would not ride therein except that when night arrives, they can get the benefit of a sleeper?

The defendants, however, claim in effect that all the passengers who are carried in the sleepers, would, if the sleepers were not provided, travel in the day coaches, and that the evidence proves that there is ample capacity in the day coaches already provided to take care of this sleeping car traffic. I am unable to see how this claim can be sustained.

The testimony does show that the average number of passengers carried in all coaches, sleepers included, is only 13 per car, but this does not necessarily mean nor does it show, that the day coaches provide very much more seating capacity than is necessary for the business done in them. It is not to be supposed that every seat in every car will be occupied all the time. Provision must be made for the *maximum* number of passengers who will ordinarily be in a car at any time on the run between divisional points, rather than for the *average* number on such run. Such testimony does not show that there is

enough extra space in the day coaches now run to provide for the passengers now carried in sleepers. It does not even tend to show it for the sleepers are run on the principal trains, and the average is obtained from all the trains. We have no data upon the average loading of the trains to which our inquiries are directed, except that it can be gathered from the testimony of Mr. Maney that the loading of the trains hauling sleepers is above the average.

Let us assume that the contention of defendants in this regard is sound. Manifestly their assumption that all of these sleeping car passengers would travel in these day coaches is unwarranted. The most that can be said is that probably some of them would. It must not be forgotten that convenience of travel necessarily stimulates travel. People who would make trips locally on complainant's road if they could do it at night under comfortable conditions, would often not make such trips if it involved either a long day ride or sitting up all night.

In addition to these considerations, it is apparent from the testimony that if the complainant did not run these sleepers not only would a large proportion of the intra passengers who ordinarily travel on complainant's road in its sleepers, take other roads where sleepers are provided, but that it could expect little business from the similar class of inter passengers, if a competing line affording this accomodation could be found, and the evidence shows that there are such competitive roads in practically every direction.

It is doubtless these considerations which led Mr. Thompson to the conclusion which he reached, and to which reference is made above, that it would be a very foolish thing for the complainant to discontinue its sleeping car business.

My conclusion is that it is clearly established from the evidence that so far from the sleeping car business, as conducted by the complainant being a burden on its other passenger business, it is a distinct benefit, not only by reason of the earnings from the sleeping cars, both for the transportation of passengers, and from the sale of seats and berths, but from the fact that if it were discontinued, there would be a loss of revenue so great that the profits in the passenger transportation business would not be so great as they now are.

What is here said of sleeping cars would apply also to parlor cars or chair cars mentioned in the statute of 1875 above quoted. The complainant does not use any exclusive parlor or chair cars, but does run two cars which are called "Dining and Observation cars", part of the space therein being devoted to chair car service and part devoted to dining car service. There are no data in the testimony which show the relative space or weight devoted to the two services.

Mr. Thompson, in his computations, treated these two cars as though they were exclusively devoted to dining car service.

The conclusion that the sleeping car service is not to be treated as an outside operation chargeable with a proportionate share of all costs, according to the theory of defendants, finds strong confirmation in the fact that that theory involves one or the other of two impossible assumptions. It is deducible from the evidence that when the sleeping cars are so treated, their operation results in a heavy annual loss, which in 1913 would have amounted to \$115,555.

In so treating the sleeping cars the defendants must assume either that the company will voluntarily incur this annual loss by continuing to operate the cars, or that

the abandonment of the sleeping car service will involve no diminution of passenger earnings.

Either of these assumptions is impossible. Certainly the company would not continue to operate the cars at such a loss; and the evidence is all to the effect that an abandonment of the service would cause a heavy loss in the passenger business. The seriousness of that loss is shown not only by the testimony of complainant's witnesses, but by that of defendants' witness, Mr. Thompson. When he says that it would be foolish for complainant to abandon the sleeping car service, he means necessarily that such abandonment would cause a loss in net passenger earnings of more than the amount of expense thereby saved, which, in 1913, would have been approximately \$30,000.

#### *Dining Cars.*

The dining car service cannot be credited with any transportation earnings, but only with earnings from the serving of meals. These earnings are not sufficient to pay expenses, but result in a considerable annual deficit, averaging \$5,689 for the four years 1910 to 1913, and being \$9,337 in 1913. This deficit the defendants claim cannot be charged to the passenger business to which the prescribed rate applies, for the same reason as was urged in connection with the sleeping cars, viz: that the conveniences thereby furnished, although furnished to passengers in transportation, are operations outside of the regular business of transporting passengers, and must, if carried on, be self-supporting. This claim raises the question whether the providing of means by which passengers in transit may eat in comfort without involving any delay of the trains, is a reasonable provision for a railway company to make in carrying on its passenger business. There is no question that a railroad

may make some provision for the needs and the comfort of its passengers, and that the attendant expense is properly chargeable to the business of transporting passengers, provided such provision and such expenses are reasonable. The question here, therefore, is whether the operation of these dining cars, and their attendant expenses, are reasonable; and as there is no claim that the expenses here charged are exorbitant or otherwise improper, provided the service itself is proper, the sole question here is whether the operation of dining cars is a reasonable provision. It is not denied that the company may, in connection with its passenger business, furnish passengers with accommodations for eating, but it is claimed that such provision is an outside operation, and must be self-supporting—that that portion of the traveling public that does not avail itself of the facility must not be made to pay a part of the expenses of furnishing such facility to those who do avail themselves of it.

On the other hand, the complainant claims that the operation of dining cars, although at an apparent loss, is, in fact, a measure of economy, and on the whole, profitable to the company, because it avoids the necessity of providing eating accommodations at stations with their expense, and avoids also the delay of trains thereby entailed; and there is testimony in the case in support of this claim. That dining cars, as a provision for the needs and comfort of passengers, are superior to eating houses at stations, there is no question and it may well be true that they are also, on the whole, more economical for the railroads, but I find that it is unnecessary to inquire here whether their operation is or is not a measure of economy as claimed. I find that the providing of eating accommodations for passengers is not only a right, but a duty of the railroads; that the form and method of pro-

viding these accommodations are matters to be regulated by them in their discretion, and that the courts, although they will not permit it to be abused, will not review that discretion for the purpose of ascertaining whether it has been profitably or wisely exercised, where, as in this case, no abuse of it is claimed to exist.

If the foregoing finding is erroneous—if it is the duty of the court to review the judgment of the complainant's managers in deciding to operate dining cars as a part of their passenger business and therefore incumbent on the Master to find whether such operation is or is not a reasonable and proper provision made in the course of the carrying on of the passenger business to which the prescribed rate is applicable, I find that the operation of dining cars as carried on by the complainant is a reasonable and proper provision for the needs and comfort of passengers being transported by them in the course of their passenger business, and that the earnings and expenses of the same as set forth in the complainant's testimony and exhibits, are therefore to be treated as part of the earnings and expenses of the passenger business to which the prescribed rate is applicable.

This finding is based on the testimony, not only of the complainant's witnesses, which shows that such dining car service is furnished by all the important and well managed railroads in the country as a component part of their regular passenger business, but also upon the testimony of the defendants' witness, M. W. Thompson, who, although the originator and proponent of the theory that sleeping and dining car operations should be treated as outside operations, and therefore excluded from consideration in testing the fairness of passenger rates, disclaims in his testimony any intention of claiming that the sleeping and dining car service should be abandoned by the complainant and expresses the view that, in his



opinion, such an abandonment would be a foolish thing for them to do.

---

To my foregoing conclusions on the subject of sleeping and dining cars defendants object (Objection No. 16). The subject of sleeping and dining cars referred to in this objection was fully discussed in connection with my findings on the subject, both upon principle and authority.

With regard to the *Dakota Coal Case*, again cited by the defendants under this objection, I do not find any conflict between it and the conclusions reached by me; and with regard to the *Ann Arbor Case*, also cited, the questions on this subject raised and litigated in this case do not seem to have been raised at all in that case.

Here and elsewhere it seems to me the defendants, in their vigorous contention for the strength and sanctity of the presumption of the validity of legislative action, neglect to give due attention to the chief question that arises in the interpretation and application of every statute, viz: the question of the legislative intention. They assume here that the legislature, in enacting this statute, intended to prescribe a rate of fare which would need to pay merely for bare transportation, without regard to the customary provisions for the comfort or convenience of the passengers transported. It appears from the evidence that if the sleeper and diner services must be treated as outside operations; and, in addition to the extra expense due to their operation, must be charged also with a pro rata portion of the operating expenses that would necessarily be incurred if there were no such operations, the company would be obliged to either furnish these services at a heavy annual loss, or

else abandon them altogether,—which means, of course, that they would be abandoned.

Now are we to presume that the legislature, in enacting this statute, intended to prescribe a rate of fare that would compel such abandonment? I cannot believe that we are,—cannot believe that the legislature intended that the statute should be so applied as to cut off this provision for the convenience and comfort of passengers, or that it had any intentions in this regard, other than to prescribe a rate that would afford a fair return from the passenger service as it was then being rendered including all the then existing provisions for the comfort and conveniences of passengers.

But, even if the legislature did so intend, such intention could make no material difference in the case unless the net passenger earnings, by which the validity of the rate is to be determined, would be greater from the sole operation of the day coaches than they are found to be from their joint operation with the sleeping cars. The defendants' contention that they would be greater rests entirely upon the assumption that the complainants would continue to operate the sleeping cars even though they are held to be outside operations and as such chargeable with a large amount of expenses, which would otherwise have to be borne by the day coaches. It is clear that such assumption cannot be made; but that the contrary must be assumed, viz, that if the sleeping cars are to be treated as outside operations as claimed by defendants, all calculations must be based upon the assumption that day coaches alone will be operated; and it is, therefore, the results to be anticipated from such operations alone that are to be estimated; and such being the case, it follows that the estimate must be based on the results realized from past operations of day coaches alone, and that they cannot be based upon results realized from

their operations jointly with other classes of cars. But we have no basis for such an estimate in this case, as the different classes of cars were operated jointly in each of the four years, for which the results of operations are shown and we cannot, therefore, make a direct estimate of the results to be expected from such sole operations in the future. But the latter can be estimated indirectly by estimating the excess cost of joint operations and deducting it from the total cost of joint operations. This excess cost has already been estimated herein from which the conclusion is reached that the sleeping cars do not burden the passenger service, i. e., that the revenue from the sale of berths and seats is sufficient to cover the excess cost of their operation. If that conclusion is correct, the net earnings from the sole operation of day coaches would be no greater than from their joint operation with sleeping cars. And this even though the volume of passenger traffic remained the same, which the only witness on the subject estimates would be reduced by fifty percent of that now carried by the sleeping cars.

(2)—*Mail and Express.*

The next question raised by defendants in this connection relates to Mail and Express business. Their claim is that these also are "outside operations" and that therefore the revenue and expense of these services should be excluded in determining the effect of the rate in controversy here.

The complainant throughout the trial, until the oral argument, treated these services as part of the passenger business; but in the oral argument was inclined to regard them as outside operations, on the ground that a prescribed passenger rate of fare otherwise reasonable could not be rendered unreasonable by a loss in the car-

rying of mail and express, and conversely, that a passenger rate otherwise unreasonable could not be made reasonable by a profit derived from mail and express operations.

The first of these two propositions is entirely clear—certainly the company could not render unreasonable a passenger rate that was otherwise reasonable by carrying on other operations at a loss; but the second or converse proposition is not quite so obvious. A rate which would be unreasonably low for the transportation of passengers in trains operated exclusively for passenger traffic, might not be so for such transportation in mixed trains earning additional revenue from other transportation; and it would seem that the legislature, in fixing the rate in question, took such additional revenue into account. By the terms of the statute itself, the question as to when the 2¢ rate shall and when it shall not apply is made to depend not upon the amount of passenger earnings, but upon the amount of passenger train earnings, which would, of course, include any other earnings that there might be from other transportation effected by the train; and if this was allowable, the question of reasonableness would be not whether the passenger earnings proper would suffice to pay a fair return upon the value of the property employed for the passenger business exclusively, but whether the entire earnings from the train would suffice to pay a fair return on the value of the entire property employed in the operation of the train. If, therefore, the legislature has power to make one branch of the service pay the expenses of another branch, and if the present proceedings were one to test the reasonableness of the rate as part of the train revenue, it would seem that the mail and express business could not be treated as outside operations but must be included.

But this is not such a case, and according to recent decisions, the legislature has not such power. The question here is not whether the rate in question will, when taken in connection with the revenue from other property, yield a fair return on the value of all the property employed in earning the several revenues, but whether it will, in and of itself, yield a fair return on the value of the property employed wholly in the service to which the rate applies. It is a case of alleged confiscation, and, as such, the sole question is whether the rate complained of will yield a fair return upon the value of the property required to be used in the particular service to which the rate applies. As such is the issue here, and as the mail and express businesses are clearly no part of the passenger business proper, those businesses should be excluded from consideration, notwithstanding their apparent inclusion by the legislature in prescribing the rate.

It follows that to the mail and express business must be assigned its proper proportionate share of the expenses which I have assigned to the complainant's passenger business. This I have done by applying Mr. Thompson's ratios hereinbefore described exactly as he applied them to his own estimate of the same expenses.

Mr. Thompson prepared no ratios applicable to the expenses of 1910 or 1911. But as the percentage of the total passenger operating expenses attributable to mail and express for 1912 and 1913 are practically the same in each year, viz, 10.8 in 1912 and 11.05 in 1913, I think in determining expenses attributable to mail and express in 1910 and 1911 I may use the average of the two years, viz, 10.92, and I have done so.

In view of our general knowledge that the United States mails are in very great part handled on trains by servants of the government, known as mail clerks, and

of the fact shown by the evidence that the express business is done by the Western Express Company, the railroad company only doing the necessary carrying, it may be doubted whether a proportionate part of the general expenses which include the salaries of all general officers and their clerks should be thus assigned to complainant's mail and express business. For the same reasons, it is doubtful whether a proportionate part of the wages of the conductors and brakemen of passenger trains should be charged against the mail and express business.

If, however, a part of these expenses should be charged to mail and express, and a part should not, I have no data in the testimony by which I could make an apportionment of the amount which should be so charged and am therefore compelled to use the methods above described.

If a proportionate part of the expenses of operating complainant's passenger trains is to be charged against the mail and express, it would seem to follow that a proportionate part of the property, which I have assigned to the passenger business must also be apportioned to mail and express. Such an apportionment should be on the basis of relative use of the property. In view of the fact that all of the property affected is common—that is, common to the business carried on on complainant's passenger trains, it would seem that there is no absolutely accurate method of making such a division. Mr. Thompson's ratios for dividing expenses are, so far as is practicable, based on relative use, and it therefore seems to me that a fair division of property may be made on the relation of the total assignments of expenses arrived at as hereinbefore under this heading stated, which will assign 11.05% of the value of the passenger property as determined by me to mail and express. I have used this



method but before applying the percentage, I have deducted from the value of the passenger property the proportion of the value of the baggage cars as I have found them, which Mr. Thompson's testimony shows is devoted to the mail and express business. The assignment to mail and express for these cars is \$25,090, and my total assignments of property to mail and express are \$462,292.

I have apportioned taxes to the mail and express property on the relation of its value to the value of the entire passenger property.

The revenues received by complainant on account of its mail and express business are assigned to that business.

The results of the use of all the foregoing methods are shown in Exhibit 7 to this report.

If the foregoing conclusions are sustained, no division of mail and express property, revenue or expenses, between the intra- and interstate services is necessary. But such division has been made elsewhere in this report, and there I have decided every question raised by the parties with reference to such divisions between intra and inter, and in my exhibits I have treated all the property apportioned to the passenger service as passenger property, so that whether it shall finally be determined that mail and express are to be included as part of complainant's passenger business, or are to be excluded therefrom, every necessary division can be made.

#### *Division of Revenues.*

Except as to a few comparatively small items, there is no dispute between the parties as to the amount of the revenues of the complainant in their Michigan passenger business. Those items are as follows:

1. The defendants claim that certain passenger earn-

ings of the Mackinac Transportation Company should be included in complainant's passenger earnings. This question has already been fully considered in connection with the question whether the property of this transportation company should be included in complainant's inventory. It was there found that none of the property of the Mackinac Transportation Company is employed in the passenger service to which the rate applies, and that none of its property should be included in the inventory of passenger property; but that its property was employed in the joint freight service of the complainant and the two connecting companies, and that one-third thereof should be included in complainant's inventory and all allocated to freight. That finding covers the question here raised and requires that the passenger earnings of the transportation company be excluded from those of the complainant company.\*

2. The complainant receives certain dividends from the South Shore Land Company, Ltd., a company the capital stock of which the complainant owns, and the defendants claim that these dividends should be included in complainant's revenue.

Neither the stock of this land company, nor the property which it represents is included in the valuation of complainant's property, nor has its business any connection with the operation of the railroad. I therefore can see no reason for including these dividends or any part of them as part of complainant's passenger earnings.

The grounds on which the defendants claim that they should be included is that the business of the land company in whole or in part is attended to by persons who are officers or employes of the complainant company, and who thus give to the land company time and labor

which belongs to and is paid for by the complainant company.

I find it to be a fact that some of the business of the land company is attended to by the treasurer of the complainant company; and that insofar, if at all, as the land company thus receives the benefit of services that are paid for out of the expense accounts of the complainant company, those accounts are erroneous and should be corrected, but that such error furnishes no ground for crediting the passenger earnings of the railway company with the dividends of the land company. The complainant claims that the passenger expenses of the complainant company have not been increased at all by reason of the services rendered by any of its employes to the business of the South Shore Land Company; that the services thus rendered were slight and of a routine character, and involved no interference with the performance of the employes' duties to the complainant company. I am unable to find from the evidence that the complainant's expenses have been increased in any amount by reason of the above mentioned services, or that there has been any neglect of duty to the complainant company by reason of those services; and am satisfied that the rendition of the services in question is not of enough importance to have any material bearing on the merits of this case.

3. There is a slight difference between the parties as to the amount of mail revenue, amounting to \$200 and accruing in the accounts for the year 1913. I am unable to find how this difference arises. The figures which I have allowed include all the revenue which I can find from the evidence the complainant actually received in that year. If there is an error of \$200, the error should, of course, be corrected.

4. There were certain rents received by complainant

from buildings not in railroad use, which the defendants claim should be included in the complainant's statement of revenue.

The property from which these rents are derived not being in railroad use and therefore not being included in the valuation of complainant's property in this case, it is difficult to see how the rents in question could properly be included in any statement from which the complainant's net passenger earnings is to be computed. The reason given by the defendants for this claim is similar to that given relative to the dividends from the South Shore Land Company, and what was there said by me with reference to that claim is also applicable here.

The grounds of the claim as specifically stated by defendants is as follows:

"The deductions as made by complainant from income, are, however, too great, as the entire gross income from rentals is deducted with no crediting to the deduction of taxes, expense of rent collections, drawing leases, supervision of the property, repairs and renewals, and other like items, which in aggregate, are probably sufficient to fully offset the income. Unless these things can be separated, the income must be left in its entirety."

I can see no propriety in including as income in this case rents received from property that is not in railroad use and not included in the valuation of property in this case. If the expense account submitted here included any expenses incurred in carrying or caring for such property, the expense account is erroneous, and should, to that extent, be corrected. I am unable to determine from the evidence whether there is such error in the expense account, but am satisfied that if there is any such error, it is too small to have any appreciable effect in this case.

5. Under the heading "Miscellaneous Rents" the defendants specify certain rents received for rails and other property loaned by the complainant to industries along their line, and claim that those rents also should be included in complainant's statement of income.

This claim is similar in all respects to that last preceding. The property from which these rents are received is not included in my valuation of complainant's property nor is it used by complainant in their railroad business; and for the same reasons as stated in connection with preceding similar claims, I find that these rents should not be included in complainant's income in this case.

6. In the revenues for 1913, under the heading "Outside Operations—Net", the defendants claim these earnings to be \$8,066.69, while the complainant's statement shows them to be only \$725.32. The revenues referred to are those received from the sleeping and dining car service only; that is, the revenue from sale of seats and berths in the sleeping cars, and from meals, etc., served in the dining cars.

In determining these revenues, complainant assigned to Michigan the revenues of all dining cars operating exclusively in Michigan, there being no car operated jointly in Michigan and any other state. The expense of the dining cars in Michigan were determined by dividing all expenses of all the dining cars on the system on the relation of the miles made by the cars in Michigan as compared with the miles made in other states.

The earnings received from passengers for occupying sleepers wholly between points in Michigan were assigned to that state, as well as its proportion of the revenues derived from passengers for occupying sleepers within two or more states determined by the miles of occupancy in each state respectively. Of the expenses

of all the sleeping cars on the system there was assigned to Michigan its proportion based on the number of miles made by those cars in all states.

By the method adopted by the defendants, the revenues from both sleepers and diners were first separately assigned to states on the basis of the revenues received from passengers in each state, and the expenses were separately assigned to states on the basis of the car mileage in each state for each class of service.

It is my judgment that the method adopted by the complainant is the more correct one, and I have adopted it.

---

To the above finding "6" defendants make objection. (Objection No. 17 (b)). The objection is:

"If the sleeper and diner operations are permitted to remain as part of the passenger operations of complainant in determining the sufficiency of the two-cent statutory rate, then the earnings of such operations, claimed by the defendants to be \$8,066.69, or at least \$3,989 thereof, should be included in the Michigan earnings, instead of the earnings of \$725.32 claimed by complainant and included by the Master."

The objection here is that the net earnings from the sleeper and diner operations of the complainant in Michigan should be \$8,066.69, or at least \$3,989 thereof, instead of \$725.32, as I have found them to be. This objection applies to the earnings for the year 1913, and to the extent that it is sound as to that year, it will require an adjustment of these earnings in the other three years.

The argument is that in my tentative report at page 263, I say that the complainant "assigned to Michigan the revenues of all dining cars operating exclusively in Michigan." It is claimed that there is no proof of such



an assignment, and that in the absence of such proof, these revenues should be divided in proportion to the revenues received from the transportation of passengers in the respective states.

The method of division thus suggested would certainly not be a proper method if division was necessary, but no division is necessary, as the evidence clearly shows that the dining cars operated in Michigan are operated in no other state, so there is no question of the assignment of their revenues between states, and therefore no reason for any division. It would appear that my use of the word "assignment" was inaccurate.

It is stated under this objection that the expenses of both sleepers and diners were divided between states by complainant on the basis of the mileage of all cars of the class including the sleepers and diners of other companies. Defendants are mistaken. The division was made only on the mileage of complainant's cars, but a portion of that mileage was not made on complainant's road, as it included mileage made on the Mineral Range Road. This inclusion was necessary in order to make the proper division between states, as it appears from the testimony that some of complainant's sleepers and diners operate on the Mineral Range Railroad between Houghton and Calumet, and that the complainant receives all the revenues and pays all the expenses of such operation.

Defendants contend that the assignment of expenses of the diners between states should be made on the relation of their earnings in the respective states, and not on a car mileage basis. They point out that the result of the car mileage basis is to assign to Michigan a greater proportion of expense than of revenue, and claim that this ought not to be. I agree with them, and shall divide those expenses by assigning to the Michigan business the

same proportion of the expenses as its revenues bear to the total revenues from dining cars.

7. In the same year the defendants show a credit to the amount of \$1,658.47, on account of "hire of equipment". There is no real dispute between the parties on this item, because the defendants offset it by a debit item which makes it agree with the figures of the complainant which I have adopted.

8. There are certain revenues received by the complainant amounting to less than 1% of its total revenues in Michigan, which are not directly assignable to either the passenger or the freight service. I have divided these items between the freight and passenger service on the relation which the totals of the items which can be allocated in each service respectively bear to the total allocated revenue. I do not understand that there is any disagreement between the parties that this is a proper method. The defendants arrive at a different results by using a different percentage, but it is a percentage for which I can find no explanation in the briefs or basis in the testimony, and I therefore leave the matter as it stands, subject to correction, if found erroneous.

*Division of Michigan Passenger Revenues Between  
Intra- and Interstate.*

It now becomes necessary to divide the Michigan revenue between the intra- and interstate business. The fares received from passengers, which constitute the great bulk of these revenues, have been allocated between these services. Some other revenue has been so allocated, as is indicated by the use of the word "actual" in the statements. Exhibits 2, 3, 4 and 5.

The revenues which could not be allocated have been apportioned by me on the basis of the allocated revenue

from passenger fares. Although this method is somewhat arbitrary, I think that it is a fair method, and I am of opinion from the testimony that it does not err by assigning too little to the intra.

There is no disagreement with reference to items which I have thus divided, except as to the items Mail and Express, and "Outside Operations" (Sleepers and Diners).

It is the contention of defendants that mail and express carried on trains which run exclusively in Michigan must be regarded as wholly intrastate business, regardless of the connections of such trains with interstate trains of the complainant and of others. I am not able to concur in this view. The evidence shows that every train on the complainant's road running exclusively in Michigan which carries mail and express connects with an interstate mail and express train of complainant or of some connecting carrier, and most trains carrying mail and express have several such train connections.

In view of the railroad geography of the Upper Peninsula, and the fact that the interstate freight business of the complainant is vastly larger than the intrastate freight business, it is not believable that the bulk of the mail and express business on complainant's railroad is not inter rather than intra business, but my finding gives the greater portion of the mail and express revenues to the intra business in order that any doubt that there may be on the subject may be resolved in favor of the defendants.

With reference to the express business the defendants make practically the same contention, and for the same reasons as those last above given, I find the contention not sustainable.

I am not able to determine, either from the oral argument of the defendants or from their briefs, in what man-

ner they have divided the revenues from sleepers and diners between Michigan intra and interstate passenger. My assignment gives to the intrastate practically two-thirds of the entire net revenue from the sleepers and diners. The evidence shows that the sleeping car business was carried on at a profit and the dining car business at a loss in each of the four years. The evidence discloses just where these sleepers and diners run, and from that evidence it appears that if the accounts could be allocated, it would be shown that the revenues derived from the interstate traffic were greater than the revenues derived from intra. It has been the contention of the defendants throughout this case that the sleeping cars were run chiefly for interstate business and were a burden upon the intrastate business, and I am unable to see how their method of division which assigns more of the revenue of this business to the intra service than to the inter can be harmonized with that contention.

*Income Due to Unearned Increment.*

Under this heading, the defendants ask me to find as follows:

"If the cost of reproduction or replacement value is as claimed by the complainant to be taken as the value of its property, then the unearned increment or the increase in value of its property from year to year must be proven by it and taken as income and added to the revenues of the particular year in question."

And in their printed brief (page 238) they say: "We must insist that no claim of confiscation can be made out without this factor being proven and that the burden of such proof is on the complainant as it must clearly show confiscation to exist before it will be relieved from putting the rates into operation."

This claim, if allowed, would, of course, like the others

which call for similar proof, put an end to the case, as the complainant has not made such proof and indeed, in the nature of things, cannot do so. But the claim cannot be allowed. It could not be allowed without not only coming into conflict with the Minnesota rate decision, but also striking at the very foundation of all private property. In that decision the right of the company to profit by the increase of property values was fully recognized and it requires but a moment's reflection to see that this right which is here and frequently elsewhere referred to by the name given it by the distinguished writer of imaginative economics, Henry George, is the most vital and fundamental of all property rights. To treat it as income would be both wrong in principle and impossible in practice. To do the former would be to deny it in part, and to do the latter would require a finding that at the beginning of every year involved the property under consideration was of a certain value and at the end of every such year it was of a certain greater value. This would be manifestly impossible in practice and if it could be and were done, it should, of course, carry with it as a corollary the converse principle, viz: that wherever the end of a year showed a decrease instead of an increase in value, the income instead of being augmented by an "unearned increment", should be diminished by an undeserved decrement.

I am unable to see how the theory of unearned increment can be reconciled with established principles or practically applied in a rate case.

#### *Division of Operating Expenses.*

##### *Division of Operating Expenses Between States.*

It now becomes necessary to determine the amount of the operating expenses of the complainant's passenger business in Michigan. To do this it is necessary to

divide the entire operating expenses between states. This presents very little difficulty as the parties are agreed in their figures. The method adopted for the division and its results are shown in Exhibit 6 hereto attached.

Having made this division, we have the entire operating expenses of the complainant in Michigan, and those expenses must be divided, first between passenger and freight, and then the passenger proportion between intrastate and interstate.

*Division of Operating Expenses Between  
Passenger and Freight.*

On the average of the four years' accounts under consideration in this case, at least 66½% of the total operating expenses as between the freight and passenger services have been actually allocated or definitely assigned upon bases accepted by both parties. Very much more than half of the expenses which cannot thus be allocated or assigned consist of the expenses of maintenance of way and structures.

Of these, certain items have been divided upon bases agreed upon by the parties as suitable.

Of the expenses of maintenance of way and structures, the great bulk are attributable to property used in common by the freight and passenger departments. A considerable amount of these expenses is attributable to exclusive freight property, and an inconsiderable amount to exclusive passenger property. The records and accounts of the complainant were not so kept that the expenses attributable to these exclusively used properties, respectively, could be separated. After the decision in the Minnesota rate cases, it became abundantly clear that some separation must be made, and testimony was introduced by which such separation could be made



upon fairly satisfactory bases. The exclusive freight property referred to consisted of some branch lines used wholly for freight service, of industrial and mine spurs, and of main and branch line side-tracks. The property used exclusively by the passenger department consisted of a comparatively few side-tracks.

The mileage of main line, of branches, of industrial and mine spurs, and of side-tracks on complainant's road, are all shown in the evidence, and all tracks have been allocated either to freight, to passenger, or to common freight and passenger. It was established by the evidence in the case that the annual cost of maintenance of industrial spurs on complainant's road is not to exceed \$300 per mile, and the cost of maintenance of mine branches is not to exceed \$375 per mile. It was also established by the evidence that on complainant's road the cost of maintenance of side-tracks is not more than one-third of the cost of maintenance of main line tracks. Therefore, to obtain the cost of maintenance of exclusive freight and passenger tracks in each year, the following method was used: The cost of maintenance of the industrial spurs and mine branches was first ascertained by multiplying the mileage of industrial spurs by \$300 and the mileage of mine branches by \$375. The result was deducted from the total annual maintenance of way and structures expenses, and the remainder then represented the cost of maintenance of main line and of side-tracks. To ascertain the cost per mile of maintenance of main line and side-tracks, the side-track mileage was equated by treating three miles of side-tracks as equivalent to one mile of main line track. Therefore, to the main line mileage was added one-third of the total side-track mileage, and the result, divided into the total expenses of maintenance of main line and side-tracks, showed the cost of maintenance per mile of the main line, and of the

side-tracks as equated. The total freight main line mileage was then multiplied by the main line cost per mile as above ascertained, and one-third of the total freight side-track mileage was multiplied by such main line cost per mile, the result being to attribute to the freight service its proper proportion of cost of maintenance of exclusive freight main line and side-tracks. A similar computation was made to ascertain the cost of maintenance of exclusive passenger side-tracks. The detail of the calculations by which the results were obtained for each year is shown in Note 15 to my Exhibit 6.

---

To my findings in this regard defendants direct their Objection No. 7. It consists of four subdivisions, "(a)", "(b)", "(c)" and "(d)". I treat them in order.

(a). The objection is that I have assigned too small an amount of maintenance charges to exclusive freight trackage. The claim is that I have failed to apportion to freight expenses the maintenance expenses of 13.06 miles of exclusive freight trackage which in my valuations I allocated to freight service.

I find that this object is well taken in the following particulars. The maintenance of expenses of the Bessemer Branch, 2.23 miles, and the south 2 miles of the Republic Branch, should clearly be apportioned to exclusive freight trackage; but whether the expenses of the 8.83 miles of the so-called South Line between Eagle Mills and Winthrop Junction, which constitutes the remainder of the track in controversy, should be so apportioned, is not so clear. The complainant claims that this 8.83 miles should be treated as common track, upon the ground that it is maintained for passenger use, and occasionally used for detouring passenger trains. This con-

tention is based on the testimony of Mr. Lytle, general superintendent of complainant, who testified that eight and a fraction miles of the said South Line was so maintained and used.

To this contention defendants reply that the evidence showed that east of Negaunee this South Line is not and cannot be used for passenger service. Upon an examination of the testimony, I find that Mr. Lytle was in error, and could not have meant to refer to the entire 8.83 miles but only to 4.23 miles between Negaunee and Winthrop Junction. With reference to the 4.6 miles east of Negaunee, the evidence is conclusive that it is not used for main line service at all, but is a main branch serving the Queen and Negaunee Mines. (Testimony of Mr. Riggs, Record 4202.)

I find that the testimony fails to show sufficient use of any part of this South Line for passenger service to entitle it to be treated as common track, and that the defendants are right in their claim that the expenses of its maintenance should be assigned to freight.

I find, however, that the defendants' contention that in assigning the expense of maintenance of these tracks, all of the 8.83 miles of the South Line should be classified as main line track, is in error. The uncontradicted testimony of Mr. Riggs just referred to establishes that the 4.6 miles of the South Line that lies east of Negaunee is used exclusively as a mine branch. I have therefore corrected my assignments of the maintenance expenses of exclusive freight tracks as above indicated, classifying 8.46 miles as main line freight trackage, and 4.6 miles as mine branch trackage.

In correcting this error, I discovered that in my original computation, the mileage of the Bessemer Branch was included as part of the main line, and also

as part of the industrial freight spurs. In making my new computation I have corrected this latter error.

(b). The objection is that there is error in the assumption that the cost of maintenance of exclusive freight side-tracks is only one-third of the cost of the maintenance of main line trackage.

Defendants insist that the ratio to be used should be not more than  $2\frac{1}{2}$  to 1, and they refer to the testimony of Mr. Riggs, Young, Lytle and Lindsay as testifying to the propriety of using the  $2\frac{1}{2}$  to 1 ratio.

In using this ratio I believed that I was acting upon undisputed evidence in the case for the reason that Mr. Delf, the auditor of the complainant, used this ratio, and Mr. Thompson, who was employed by the defendants to determine expenses of operation, also used it. Defendants now claim that Mr. Thompson used this ratio in reliance upon Mr. Delf's testimony.

I have examined all of the testimony to which defendants have referred me on this subject, besides much other testimony. The only direct testimony on the subject of the cost of this maintenance on complainant's road was from Mr. Delf. And this testimony is substantially confirmed by the fact that Mr. Thompson uses the same ratio. With regard to defendants' claim that in using this ratio Mr. Thompson relied entirely upon the judgment of Mr. Delf, I do not find such claim borne out by the evidence. On the contrary, the evidence indicates to my mind that he either relied upon his own judgment or upon the judgment of Mr. Hone, an engineer whom he employed as his assistant.

I can find nothing in the testimony of Mr. Riggs, Mr. Young, Mr. Lytle or Mr. Lindsay that seems to me to justify defendants' claim that I should use any other than the 3 to 1 ratio in this case. On the contrary, insofar as the testimony of either of these witnesses has any

bearing on the subject as regards this road, its tendency is to support the 3 to 1 ratio for use on this road. Mr. Young was questioned as to the cost of maintenance both of main track and side-tracks on the Lake Superior & Ishpeming Railway and the relative cost of the maintenance on that road would appear to have been about  $2\frac{1}{2}$  to 1, but the average of side-track maintenance on that road on the four principal sections named by Mr. Young was \$225 in 1913, and \$209 in 1912, whereas the 3 to 1 ratio attributed to the side-track mileage of the complainant, a cost of more than \$310 per mile in 1912 and more than \$326 per mile in 1913. The testimony of Mr. Young to which I refer will be found Record 8264-8270.

(c) The specific objections are that of the expense of maintenance of equipment, a part of the "Work Equipment Repairs", "Work Equipment Renewals" and "Work Equipment Depreciation" should be assigned to exclusive freight trackage; and that of the "Transportation Expenses", a part of "Superintendence", "Dispatching Trains", and "Stationery and Printing" should be likewise assigned.

With reference to "Work Equipment" expenses, I think the objection is well taken. For the year 1913 my apportionment of the Maintenance of Way and Structures expenses to exclusive freight tracks was 12.25% thereof and, I am now assigning to the freight service the same percentage of these "Work Equipment" expenses.

The accounts "Superintendence" and "Stationery and Printing" under "Transportation Expenses" I assigned upon the overhead basis, and by this method the freight service was given the full benefit of those assignments. I can see no reason to make any change in my assignments of these accounts.

Upon further consideration, I think I was in

error in adopting complainant's method of dividing the expense of "Dispatching Trains", and that some other method should be used. As this expense is incurred in directing train and engine movements not only on common tracks, but also on exclusive tracks, I think that a train mileage ratio should be used for this division which takes into consideration these movements on exclusive tracks. Therefore for the division of this account I have prepared a new ratio, made up in the same way in which my modified train mile ratio was computed, except that I included all switching miles wherever made, instead of including only those switching miles made on common tracks. This ratio for 1913 assigns to the passenger expense 35.9% of this account. I have used this same ratio for the division of accounts, 63, 78, 94, 101, 104 and 105 under "Transportation Expenses" as shown in note ten to my Exhibit 6.

(a). The objection is that no account was taken of the undisputed testimony that freight spurs and sidings are entirely changed in position, and must be removed and rebuilt at least once in each fifteen years. I assume that it was the intention of the defendants to insist that this claimed undisputed testimony should have been considered by me in connection with the assignment of expense to exclusive freight tracks, although it is not so expressly stated.

I do not find in the record the testimony referred to and cannot believe that there is any such testimony. I remember testimony to the effect that the average life of freight spurs and sidings was about fifteen years. However, the point is immaterial, as it appears from the testimony of Mr. Delf (Record pages 7752-53) that when a new freight spur is put in, the cost is charged to Additions and Betterments, and that when an old spur is taken up, the cost of taking it up is charged to Profit and



Loss. Mr. Delf's statement in this regard, and that such charges are proper, is confirmed by the rules of accounting of the Interstate Commerce Commission, complainant's Exhibit 27. I cannot see, therefore, that operating expenses are affected when a sidetrack loses its usefulness.

As to the proper division of the remaining common expenses, there has, perhaps, been more controversy between the parties than on any other question in the case. It is agreed between the parties that at least 60% of them is attributable to depreciation of the property from weather and other natural causes as against 40% attributable to the wear and tear caused by traffic.

It is obvious then, and not disputed, that a method which will determine the relative use of the property between the two services will fairly divide this 60%, and as I have already found such method in the modified train mileage basis, I have divided these expenses on that basis.

With reference to the remaining 40%, it is claimed by defendants that the larger proportion is occasioned by the freight service by reason of the heavier locomotives and cars used in the longer trains in that service, and by reason also of the defects in freight cars as compared with the passenger cars.

For the division of these expenses the defendants proposed the use of the gross ton mile ratio, meaning a ratio arrived at by multiplying the loaded weight of the trains in each service respectively, including their engines, by the miles made in each service respectively.

On behalf of the complainant, it was contended that the straight revenue train mile basis afforded the best method for the division, and they produced witnesses who testified that the gross ton mile basis would not fairly divide these expenses because the speed of a train was an

element to be considered, and that its destructive force upon roadbed was greater in proportion than the destructive force due to mere weight.

I am convinced from the testimony that the gross ton mile theory does not afford a proper basis for a fair division, because it does not give proper weight to the element of speed, and I am convinced from the testimony that the straight revenue train mile basis does not afford a proper basis for the division, for the reasons I have already given in adopting a modified train mile basis.

I am convinced, further, that it is impossible, in the present state of railroad development, to determine the relative destructive effect upon roadbed of weight as compared with speed in such a manner as to arrive at a result expressed in dollars and cents. Assuming, however, that the gross ton mile basis would afford a proper measure for the division of maintenance expenses due to traffic, it was demonstrated during the argument, and I find, that in the operations of the complainant during the year 1912, the application of this theory to the expenses caused by traffic as compared with the use of the straight revenue train mileage basis, would assign to the passenger department only \$23,424 less than would be assigned to it on the straight revenue train mile basis.

It is fully established by the testimony in this case that it is the general custom among railroads to maintain common tracks and roadbed to a higher standard on account of the necessity of having a smoother and better kept roadbed for passenger traffic than would be necessary if only a freight business were done, and also that the common tracks and roadbed of the complainant were so maintained. The weight of the testimony is to the effect that this extra cost of maintenance attributable to the passenger service approximated 20%, which of itself would more than counterbalance the extra expense of

maintenance claimed by the defendants to be due to greater destructive force of the freight traffic.

---

Defendants' Objection No. 21 is made to my finding in the last foregoing paragraph. The objection as stated is to so much of my report

"as finds the evidence to show that the line and road of complainant is better maintained than if maintained for freight service only."

It will be observed that this does not correctly state my finding, which was as follows:

"It is fully established by the testimony in this case that it is the general custom among railroads to maintain common tracks and road-bed to a higher standard on account of the necessity of having a smoother and better kept road-bed for passenger traffic than would be necessary if only a freight business were done, and also the common tracks and road-bed of the complainant were so maintained. The weight of the testimony is to the effect that this extra cost of maintenance attributable to the passenger service approximated 20%, which of itself would more than counterbalance the extra expense of maintenance claimed by the defendants to be due to greater destructive force of the freight traffic."

I saw and heard the witnesses who testified on this subject, and have reconsidered the testimony, and I still think that the conclusion at which I arrived is the only proper conclusion to be drawn from the testimony. There was testimony introduced by the defendants in which the witnesses gave it as their opinion that, as a matter of economy in operation, it is desirable to keep a freight

road maintained to as high a standard as one doing both freight and passenger business.

The question of railway economy thus raised is not covered by my finding here objected to, except as it is impliedly involved in the finding as to the general custom of railroads in this regard. The question of economy has not been treated as being in issue in this case, and it is manifestly a question that would be very difficult, if not impossible, to solve except by long continued practical tests. If the question were to be judged upon the testimony here, we should have, on the one hand, the opinion of three of defendants' witnesses, and on the other the general custom of railroads in actual practice. As the railroads would not follow that custom unless they considered it better economy than the opposite custom, and as their course in this regard is determined upon by practical men of large experience with their own interests at stake in their decision, I think the custom entitled to greater weight as evidence than the opinion of the engineers to the contrary. However, it must be borne in mind that economy is not the only element to be considered in this connection. There are also the elements of safety of operation and the safety and comfort of the passengers. It is self-evident that the consideration of safety requires that on a road which carries passenger trains at a speed of from 30 to 60 miles per hour, tracks should be maintained at a higher standard than on roads carrying only freight trains at a speed of from 15 to 30 miles per hour. I find that the exigencies of the passenger business on complainant's railroad reasonably call for a passenger train speed 100% greater than the freight train speed reasonably called for by the exigencies of the complainant's freight business, and that a due regard for the safety and comfort of passengers calls for a higher standard of track maintenance on its common tracks than

would be required for the safety of its freight trains on tracks used only for freight traffic.

Whether it would be more profitable to maintain exclusive freight tracks at as high a standard as the common track than to maintain them only at the standard required for the safety of the freight trains is a mixed question of economics and mechanics on which it would be very difficult to form an adequate judgment, and upon which, as already stated, I regard the general practice of railroads as entitled to more weight as evidence than the individual opinions either pro or con of civil engineers.

---

There was undisputed testimony in the case that on complainant's road there is a loss of power in freight engines due to the super-elevation of curves for the passenger service, which might properly be attributable to the passenger service, in loss of fuel which, in 1912, amounted to \$855.

There was undisputed evidence in this case that  $2\frac{3}{4}\%$  of the time of freight trains on the road is attributable to the delays caused by the preference given to the passenger service to keep the trains in that service on time, as near as may be, and it would follow from this that of the transportation expenses of the year 1912 at least \$5,500 which have been allocated to wages paid to freight enginemen and freight train men would more properly be charged to the passenger service. These delays also would cause an extra use of coal in the freight service which would reduce the amount properly assignable to that service and increase the amount properly assignable to the passenger service by more than \$2,000.

There was undisputed evidence that a considerable amount of cost is attributable to the passenger service on account of freight hauled for its use in freight trains,

for which no charge is made. The complainant claims that this item on coal, ties, ballast and rails alone exceeds \$3,400 per year.

There are also other expenses charged to the freight service, which, if the amount could be determined, might properly be charged to the passenger service. On the other hand, there are expenses charged to the passenger service which, if the amount could be determined, would be properly chargeable to the freight service.

I find that the weight of the evidence shows that of these indeterminable expenses, the part which would properly be chargeable to the passenger service would exceed the part chargeable to the freight service, but, because they are indeterminable, I cannot use them to increase the known expenses of the passenger service. But my finding as above expressed ought to, and does, somewhat weigh with me in the conclusion announced in the next paragraph.

It is perfectly obvious that a mathematically accurate division of these common expenses of maintenance is not possible; it is only a *fair* division that can be arrived at, and in view of all the facts appearing from the evidence, I find that the modified revenue train mileage basis, which I have adopted for the division of common property, and for the division of the operating expenses of maintenance of way and structures due to weather causes is also a reasonably fair basis for the division of the expense due to mechanical wear, and fairer than any other that has been proposed.

The determination of the proper ratio to be applied to the common items of Maintenance of Way and Structures expenses having been effected, there remains no dispute between the parties as to the proper division of any of the items of expense under this heading.



The same thing is true of all the items of expense under the heading "Maintenance of Equipment".

The same thing is true of all items under "Traffic Expenses," except that the complainant contends that the expenses of Industrial and Immigration Bureau should be divided on the modified revenue train mile basis, while the defendants insist that it should be divided in the relation to the gross revenue derived from the freight and passenger business respectively. Of the two methods thus proposed, I think the gross revenue basis more fairly reflects the benefits received by the respective services, and I have therefore adopted it. Under Transportation Expenses, there is no dispute except as to the item, Interlockers, Block and Signal Apparatus, Operation, Crossing Flagmen and Gatemen, and Engine House Expenses, Road.

With reference to the first two of these items, defendants contend, if I correctly understand them, that they should be divided in proportion to the freight and passenger yard switching, while the complainant contends that they should be divided on the modified revenue train mile basis. I think that either of these methods would be reasonably fair, but as the expenses covered by these accounts are incurred primarily and principally for the protection of trains, I think that they are more properly assigned upon the modified train mileage basis, and I have, therefore adopted that basis.

---

Defendants' Objection No. 22 is directed to my conclusion that account number 91, "Crossing Flagmen and Gatemen", can be properly divided on the modified revenue train mile ratio. Defendants claim that these expenses would be more properly divided in the proportion of the freight and passenger yard switching.

Upon reconsideration, I am of the opinion that the

modified revenue train mile ratio is not proper for this division. On the other hand, a division in proportion to the freight and passenger yard switching would assume that flagmen and gatemen were employed only to protect the public against switching operations, an assumption which is certainly not allowable. These expenses were incurred, beyond any question, both for the protection of the public against trains and against switching operations. I have therefore decided to make the division upon a composite ratio obtained by combining the straight revenue train mile ratio with the yard switching ratio. This for 1913 will assign 25.44% to passenger and 74.56% to freight.

---

The Engine House expenses, the defendants contend, should be divided upon a modified locomotive mileage basis, while the complainant has divided them upon the basis of the engine housings. I am inclined to think that the engine housings more fairly reflect the benefits derived by each service from these expenses, and I have therefore adopted that method.

#### *General Expenses.*

The common expenses under this heading I have divided on the basis of the totals resulting from the division of Maintenance of Way and Structures, Maintenance of Equipment, Traffic Expenses, and Transportation Expenses—which seems to me an entirely fair and unobjectionable method.

Under this heading of General Expenses, it is claimed by the defendants that all the expenses of this litigation should be excluded, for the reason that it is an extraordinary expenditure of a kind that is not likely to occur again, and the complainants claim that all such expenses have been excluded in their testimony and exhibits. The

defendants claim, however, that the complainant has not excluded all that should be excluded. On this subject they say:

"It has not, however, gone far enough. It deducts only the law expenses which are directly charged against this expense. (Delf. R. p. 7751.) It does not deduct for the expenses of time of the auditor and his large force of assistants, who have devoted much of their time to the case, nor does it make any deduction for the valuable services of the president, who has, for a couple of years, devoted almost his entire time to it, nor does it make any allowance for the engineering force, general manager or general superintendent, who have devoted time (R. pp. 3496-7) and we doubt whether there is anything charged against it for special train service, which, upon reading the testimony of Berry, Riggs, Young, Loweth, Cadarette, and others, will be seen to be a large item."

"One dollar per mile for this train service is not more than the company charges for this character of service."

If, by this statement, defendants mean that because the officers and employes of complainant have devoted a portion of their time to this litigation, that therefore a portion of their salaries must be treated as part of the expenses of this litigation, then I hold to the contrary, for the effect would be to assume that the normal expenses of the departments affected were less than they really were.

If, on the other hand, the defendants mean that the expenses of the departments mentioned were in excess of what they would have been in consequence of work done in them in connection with this case, and that the amount of such excess expense has not been excluded from the

complainant's expense account, and if their contention should be found to be correct, the amount of these extra expenses should be so excluded. But the evidence does not show that there was such additional expense. It shows affirmatively that there was no such additional expense not charged to this case in 1912 (Record p. 3496). And as regards the year 1913, there is no testimony on that particular point.

There is nothing in the evidence from which I could find such additional expense, and the amount thereof. Nor is there anything in the evidence from which a deduction could be made on account of salaries of officers who have given time to the case; as the evidence does not show how much of the time of any officer has been given to the case or the amount of his salary.

With reference to the cost of special trains, the testimony does not show that there was any such service; but it shows that if there was any such service in 1912, it was charged up in the expenses incident to this suit.

In the absence of evidence showing that there was special train service which should have been charged to the expenses in this case, and excluded from complainant's general expense account, there is no basis for a deduction to be made by me from complainant's expense accounts. If there were, in fact, any such additional expenses in 1913, which should be but have not been excluded, it is hardly possible that their amount could be great enough to have any perceptible effect upon the case; but if the court should find it essential that the testimony should show whether there was or was not such additional expense in 1913, and the amount of it, if any, I would recommend that the court allow the introduction of further testimony for that purpose.

I have therefore excluded from the expenses for 1912 the sum of \$19,083, and for 1913 the sum of \$25,690,

those being the amounts which I find from the evidence should be excluded for the purposes of this case, and which figures both parties have used in making these deductions in their statements of operations submitted to me.

The methods adopted for the division of each of the various accounts will be found set forth in Exhibit 6 hereto attached.

Having made this division of expenses between passenger and freight, we arrive at the amount of the total expenses of the complainant's passenger business in Michigan.

*Division of Michigan Passenger Operating Expenses  
Between Intrastate and Interstate.*

Certain passenger expenses can be allocated between intra- and interstate. It is agreed between the parties that in general, the remaining expenses can be apportioned on the basis of the respective passenger miles traveled intra- and interstate in Michigan, and all except the following have been so divided:

The passenger proportion of the expenses of the Soo bridge I have assigned entirely to the interstate.

The accounts of Outside Agencies and Advertising, under Traffic Expenses, have been divided on a basis agreed to between counsel.

The accounts Station Employes and Station Supplies and Expenses, I have apportioned between intrastate and interstate passenger on the relation of the number of passengers traveling interstate and intrastate, which seems to me a more proper basis than that of passenger miles. This division might also be made on the relation of the tickets sold at stations, which method would be more favorable to the complainant, but I prefer to divide it on the relation of the number of passengers traveling.

It was contended by the complainant that the cost of carrying on the intrastate passenger business was much greater per passenger mile than in the interstate business, and witnesses in this case testified that the extra expense was from 15% to 25%. It is contended by the defendants that such testimony in this case is subject to the criticism of somewhat similar testimony in the Minnesota rate cases, and I agree with that contention. Although this testimony may be held to sufficiently establish the fact that there is such greater expense, it does not satisfactorily show the amount thereof, and therefore cannot be given effect.

---

To the foregoing division of passenger operating expenses between inter and intra defendants' objection No. 23 is interposed. In making that division, I understood that counsel had agreed as there stated, but it now appears that I was in error as to the position of defendants' counsel, for the objection claims that I was in error in my division of Michigan passenger expenses between intrastate and interstate on the basis of passengers carried one mile, i. e., in proportion to the number of passenger miles of each class of passengers, and claims that a less proportion of the expenses should be assigned to the intra because of the greater density of intra traffic, on the ground that owing to such density, the cost per passenger mile is less in the intrastate.

By density of traffic is meant the relative volume of traffic over a given section or division of the road as compared to the volume over another section, the density being in proportion to the volume.

It is, of course, true that, other things being equal, and subject to certain limitations, it costs less to transport a passenger a mile when the volume of traffic is large than



when it is small. But it does not follow from this that it costs less to transport an intra passenger than an inter passenger. Such a result could follow, if at all, only in case these two classes of passengers were carried in separate conveyances. Whenever both intra and inter passengers are carried indiscriminately in one and the same train or car, it can no more be said that it costs less per mile to carry an intra passenger than it does to carry an inter, than it can be said that it costs less per mile to carry a white man than a colored man.

Therefore, any decrease in cost per passenger mile that there may be resulting from increased density of traffic on a certain section of the road applies to each passenger equally whether he is inter or intra. Such is the case on complainant's road. The evidence shows that intra and inter passengers are not carried separately but are carried together indiscriminately and on the same trains; that all of complainant's passenger trains connect with roads delivering interstate passenger traffic, and all of them carry both inter and intra passengers. If the number of intra passengers which they carry is greater than the number of inter passengers, that fact does not make the actual cost of carrying one of the former any less than that of carrying one of the latter.

It may be, however, that the defendants' claim here is that although the actual cost of carrying an intra passenger is the same as that of carrying an inter passenger when they are carried on the same train; nevertheless, in a division of costs between the two services, the intra should be charged with less expense per passenger mile, because the additional cost of carrying the excess of intra passenger miles over the inter is not as great per passenger as the cost per passenger mile of carrying the inter passengers and an equal number of intra passengers. In other words, that the cost of carrying all the

inter passengers and of an equal number of intra passengers should be equally divided between the two services, and the intra charged only with the excess cost of carrying the additional number of intra passengers, which would be less per passenger mile. Is there any principle that requires such a division? I do not think so. I do not think that the interstate passenger service can be used in that way to further reduce the cost of the intra service. If there were no inter service, the total cost of the intra service would be much greater than it now is, and the cost per intra passenger mile would be correspondingly greater than in the division that I have made. In the division on the basis of passenger miles in the two services, each service gets the benefit of working in conjunction with the other, and that is all the benefit that either is entitled to.

Such a division as defendants here contend for would seem to be an unwarranted discrimination against interstate traffic in favor of the intra, and a placing of a burden upon the former for the benefit of the latter.

The problem is to make a proper division between the intra- and interstate services of the expenses incurred in rendering the combined services. Those expenses are incurred for both services combined, and they should be borne by each in proportion to the extent to which each service avails itself of the facilities paid for by these expenses. Is this extent properly measured by the number of miles that a passenger is carried in each service? It seems to me that it is, and I am unable to see how it can be as properly measured in any other way.

Defendants also object to my apportionment of the accounts "Station Employes" and "Station Supplies and Expenses". (Objection No. 24.)

This objection is that the expenses of station employes, supplies, and the other station expenses should

be divided between inter and intra on the basis of the number of miles traveled by the passengers in each class rather than on that of the number of passengers in each class. As between these two methods of division, the one chosen should, of course, be that which best reflects the extent of the use of the station facilities made by each class. That this is so there would seem to be no room for question; and if this is so, there would, in like manner, seem to be no room for question that, as between these two bases of division, that of the number of passengers should be chosen. Practically every passenger in each class uses the station facilities for every journey, and the use which he makes of them is practically the same, regardless of the length of his journey. If he rides only ten miles, his use of the station privileges is the same as though he rode 100 miles or any other distance. It would seem clear, therefore, that a division on the basis of miles traveled, whatever else may be said of it, would not reflect, except in very distorted fashion, the actual use of the station facilities by the two classes of passengers. In such division the use made by a passenger riding 100 miles would, as reflected in the division, be ten times as great as that of a passenger riding ten miles, when in fact the use would be the same. At all events, there is nothing in the fact that a passenger rides 100 miles which would tend to show that he makes any greater use of the station facilities than a passenger who rides 10 miles.

As these station facilities are provided for the use of passengers, and as they are available equally to both of the classes of passengers in question, and as all passengers in either class presumably make the same use of them, I can see no objection to dividing the expense of operating them on the basis of the number of passengers using them. And especially can I see no reason for

objecting to it as unfair to the intra passengers, because it is altogether certain that the average use of an intra passenger is greater than that of an inter passenger, because a large proportion of the intra passengers are local passengers, each of whom uses the station facilities twice in connection with each journey, whereas the greater portion of the interstate passengers use them only once in each journey.

I am satisfied that these station expenses should be divided on the basis of the number of passengers, rather than on that of miles traveled by the passengers in each class.

#### *Division of Taxes.*

It is agreed by both parties that taxes should be apportioned between the services, passenger and freight, respectively, and between intrastate and interstate passenger and freight, respectively, in proportion to the respective valuations, first deducting the proportionate amount of taxes on the Michigan property assigned to Wisconsin. To do this properly, there must be excluded from the valuation the value of the property owned by corporations other than the complainant, because these other corporations pay their own taxes, and the share thereof which falls on complainant is included in its expenses. Therefore, before determining the proportion, I have excluded all the property in Schedule 34, "Ferries and Steamships", and in Schedule 36, "Terminals", being all the property of the Mackinac Transportation Company, the Saint Marie Union Depot Company and the New Jersey Bridge Construction Company included in my valuations.

*Probable Earnings Under the Two-Cent Rate.*

Having found the amount of net earnings in a typical year under the 3¢ rate, it remains to estimate therefrom what the annual net earnings will amount to under the 2¢ rate.

On this question, the complainant claims that the earnings to be expected under the 2¢ rate will be found by reducing to 2¢ per mile all the fares in excess of that rate charged under the 3¢ rate in the typical year.

The defendants admit, of course, that such reduction in the revenue realized from the passenger miles shown in the typical year will result from the reduction in rate, but deny that the total of passenger earnings will be thus reduced. They claim that the reduction in rate has two distinct and different effects, both of which must be considered; that while the reduction in rate causes a decrease in passenger earnings in one way, in another way it causes an increase in earnings by causing a large increase in passenger traffic—an increase so great that the total net earnings under the 2¢ rate will be substantially as great as under the 3¢ rate. This claim of the defendants, if sustained, would put an end to the case. If it is a fact that the prescribed rate will cause no loss in revenue, there is, of course, no ground for this suit. Is it a fact? The defendants offer no proof in support of this allegation. Instead of undertaking to prove the allegation to be true, they contend that it devolves on the complainant to prove that it is not true; and in support of this contention, they invoke again the presumption in favor of the validity of legislative enactments and claim that by virtue of that presumption, the burden is on the complainant not only to prove every allegation necessary to show *prima facie* that the statute is confiscatory, but also to disprove every counter allegation which, if true, would render the statute non-confiscatory,

or create a reasonable doubt of its being confiscatory; that the reduction in rate will, of a certainty, cause some increase in traffic, and that the statute cannot be held confiscatory until it is shown affirmatively that that increase will not be sufficient to overcome the loss caused by the reduction, or sufficient to cause a reasonable doubt in that regard.

This claim assumes that there is a legal presumption that the reduction in rate will cause an increase in traffic sufficient to overcome the loss caused by the reduction in rate, or at least sufficient to raise a reasonable doubt that the loss so caused will not be thus offset to such an extent as to save the statute from being confiscatory, and that the complainant must overcome this presumption by proof to the contrary. To be more specific, the claim assumes that if the complainant proves that the net earnings from the total passenger miles of the typical year would, under the 2¢ rate, be insufficient to yield a fair return on the property employed, the presumption in favor of the statute is not thereby overcome, because there still remains a presumption that the decrease in rate will cause an increase in traffic that will increase the earnings, and that the statute must be held constitutional until it is affirmatively shown that such increase in earnings will not be sufficient to bring the total net earnings up to an amount that would constitute a fair return upon the property employed, or sufficient to create a reasonable doubt of its insufficiency in that regard. Is there such a presumption arising from the presumption in favor of the statute? If so, the complainant's case must fail, for in order to prove that the increased traffic will not be sufficient to have that effect, it is necessary to prove what that increase of traffic will amount to, and to do that is impossible. Assuming that there will be some increase in traffic, there is no ground whatever on



which to form a rational estimate of what that increase will amount to. Any attempt to make such estimate would be guess work of the vaguest kind.

Does the law indulge such presumption and thereby impose this impossible burden of proof? I find that it does not; that the presumption in favor of the statute is not of such character as to produce this result. That presumption is itself founded, as we have seen, on a presumption that the legislature has judged the precise question involved and judged it correctly on satisfactory evidence. This being so, the presumption in favor of the statute can extend only to such questions as could have been judged by the legislature, and cannot extend to questions that could not have been so judged. In other words, a question of fact which, from its nature is not susceptible of proof, and is therefore beyond the power of the courts to determine, is also beyond the power of the legislature to determine, and cannot therefore be assumed to have been legislatively determined. I find that the question as to the amount of increased traffic to be anticipated from the reduction in rates is such a question, and that there can therefore be no presumption that the legislature adjudged it and found that the increase in traffic caused by the reduction in rates would be sufficient to overcome the loss in earnings resulting from the same cause; and therefore that the complainant is not required to prove the amount of the increase in traffic.

This, however, does not relieve the complainant from meeting the question presented by this possible increase in traffic. The burden of proof is still on them to prove the unconstitutionality of the statute beyond a reasonable doubt, and it therefore is necessary to meet the question whether there is such a possibility of increase in

traffic, and if so, whether it is sufficient to create such reasonable doubt.

Upon this question, I find that there is not only a possibility, but a very strong probability, that there will be some increase in traffic—that there will be a greater number of passengers carried and a greater number of passenger miles made under a 2¢ rate than there would be under the 3¢ rate. I find, also, that it is wholly impossible to make any rational estimate in actual figures of the amount of that probable increase, but that it is morally certain that the increase will be comparatively small, for the reason that the increase will be only in local travel for pleasure and in a region so sparsely settled as that which is tributary to the complainant's road, only a small increase in such traffic can reasonably be expected. This view of the probable increase finds confirmation in the experience of the company during the twelve years preceding the year 1914. According to the accounts for those years which are in evidence, the number of passenger miles per annum increased during that period approximately 20%—from 27 millions plus in 1902 to 33 millions plus in 1913. At about the middle of that period, viz: in September, 1907, there was a reduction in rate from 4¢ per mile to 3¢.

On the defendants' theory that a reduction in rate will result in a corresponding increase in volume of traffic, this reduction of 25% in rate in 1907 should have been followed by an increase in passenger miles in 1908 sufficient to overcome the loss, which increase, it would seem, would have to be at least  $33\frac{1}{3}\%$ , but instead it was followed by a decrease of a trifle under 3% in that year, and in the succeeding year, 1909, it was followed by another decrease of a trifle over 3%. Since 1909, the passenger mileage has fluctuated somewhat, but has not approached the 1907 mileage until 1913, when it came

a little within 100,000 miles of the latter. The mileage for 1907 was, for the fiscal year ending June 30, 1907,—three months before the reduction in rate took effect, so that the large mileage of that year was wholly under the 4¢ rate and the mileage of 1908 was three-fourths under the 3¢ rate. This experience, of course, does not prove that a decrease in mileage is to be expected from a reduction in rates. But it very strongly confirms the above conclusion that the probable increase of traffic to be expected from the rate reduction in this case is small and very uncertain in amount.

My conclusion is that the possible increase in traffic which may result from the decrease in rate is too small and uncertain and too much a matter of mere speculation to be allowed to be made the basis of any calculations, and that in estimating the results of future operations, it must be assumed that the probable earnings to be expected under the 2¢ rate will be found by applying to the passenger mileage of a typical year the 2¢ rate to the whole fare mileage, and 1¢ rate to the half fare mileage, and the 3¢ rate to the mileage of passengers who travel only five miles or less, as those are the rates provided in the act complained of.

The conclusion here reached seems to be fully supported by the cases of *Chicago & N. W. R. R. vs. Dey*, 35 Fed. 866-81, and *Re Arkansas Rate Cases* (St. L. & S. W. Ry. vs. Allen), 187 Fed. 390.

In the former case, the Court, per Mr. Justice Brewer, says:

“It is said that it cannot be determined in advance what the effect of the reduction of rates will be. Oftentimes it increases business, and who can say that it will not, in the present case, so increase the volume of business as to make it remunerative, even more so than at present. But speculations as to the

future are not guides for judicial actions; courts determine rights upon existing facts. Of course, there is always a possibility of the future; good crops may increase transportation business; poor crops reduce; high or low rates may likewise affect; but the only fair judicial test is to apply the rates to the business that has been done in the past and see whether upon that basis such rates will be remunerative, or compel the transportation of business at a loss."

In the latter case, this language is quoted and the principle enunciated is applied.

---

To my determinations under the heading, "Probable Earnings under the Two-Cent Rate", defendants' Objection No. 26 is directed. There are six different grounds, designated (a), (b), (c), (d), (e) and (f), as follows:

(a) That there is no proof that there will be any loss.

If this means anything different from what is meant by specification (d), then the answer to it is that it is not only proved, but it is undisputed and unquestionable that there will be a loss on every passenger mile made under the reduced rate. If it means that there is no proof that this loss will not be overcome by increased traffic resulting from the reduction in rate, it is identical with specification (d).

(b) That "there is no basis for a conclusion that increased traffic will not result from the decreased rate."

The assumption here involved that I found or drew a conclusion that increased traffic would not result from the decreased rate is erroneous. I neither drew such conclusion or made such finding. On the contrary, I

found that in all probability some increase in traffic would so result.

(c) That "said rate never having been put into operation, there is no experience or basis on which to estimate loss due to putting it into effect."

This is simply another form of the proposition that no rate can be enjoined or contested unless and until it has been put into operation, and kept in operation for an indefinite period long enough to demonstrate by experience what the actual loss will be.

If this proposition is sound, this case would never have proceeded farther than the motion for a preliminary injunction, as the court would have held then and there that the suit was prematurely brought and could not be maintained until the rate had been tested by experience. The proposition need not, therefore, be discussed here.

(d) That "there is no testimony that increased traffic due to the decreased rate will not so increase the volume of traffic carried that there will be no loss."

The question whether it devolves upon complainant to prove this negative was so fully discussed in connection with my findings that no further discussion seems to be called for here.

(e) That "the presumption that increased traffic due to the decreased rate will be sufficient to overcome, in whole or in part, the loss in revenue per passenger per mile due to the decreased rates has not been overcome."

I know of no such presumption as is here assumed to exist. This is the same as specification (d), except that it is stated in another form. It assumes the existence of a presumption that would cast upon the complainant the impossible burden of proving what increase of revenue would arise from increase of traffic resulting from the decrease in rates. That there is no such presumption

seems to be recognized by defendants in argument under this objection when they say, "to allow complainant as loss the full difference between the amounts produced by the old rates and amounts which would be produced by the new rates is to disregard the experience, which amounts almost to a presumption, that traffic will increase." This specification is the same in substance as (c) and (d), but stated in another form.

(f) That "the conclusion that the reduction in rate of 1907 did not result in increased traffic is unsupported by the evidence, and the proper conclusion therefrom is that an increase did result from such reduction."

The assumption here made that I made a finding or drew a conclusion that the reduction in rate in 1907 did not increase traffic is incorrect. On that subject I made no findings but merely gave the undisputed figures shown in the testimony (which speak for themselves) as tending to confirm the conclusion thereinbefore drawn, that the probable increase of traffic to be expected from the rate reduction in this case is small and very uncertain.

Defendants argue at considerable length under this objection in support of their contention that no rate can be enjoined or its validity tested until its effect has been proven by actual experience gained by putting it into operation for such length of time as will be sufficient for that purpose, but the authorities cited do not, in my judgment, sustain that position, and it seems to me clear upon principle that no such general doctrine can be held.

In arguing it, defendants entirely disregard the fact that the question of the amount of increased traffic in any case, arising from a reduction in rates, will depend upon the special conditions of the particular road in question.

Those conditions might be such as to render a large



increase probable, or they might be such as to render any considerable increase very improbable or even impossible. In order that there can be an increase there must be in the territory served by the road what may be called potential traffic, waiting to be developed into actual traffic by a reduction in rates. In this case there is, in my judgment, no such potential traffic as could possibly be expected to develop into sufficient actual traffic to overcome the loss, or to overcome any material portion of it. This conclusion is drawn from the testimony in the case, and is based upon the sparsity of the population and its location or distribution in the territory traversed by the road; and the conclusion is strongly confirmed by the effect of the reduction in rates in 1907, which effect is shown by the evidence in this case and from which it appears clearly that there was not, at the time of that reduction, any appreciable amount of potential traffic capable of being developed into actual traffic by a reduction in rates.

It appears from the evidence that in each of the three years following 1910 there was an increase in the number of intrastate passenger miles over those in the preceding year, so that the number of intrastate passenger miles made in 1913 was 15% greater than those made in 1910.

As to the cause of this increase there is no direct and positive evidence. The defendants claim that it was an increase in intrastate traffic proper and was due, in the main, to the decrease in the rate made in 1907, and that it proves their contention that the decrease in rates will produce a considerable increase in traffic. But the complainant claims that it was not a genuine or legitimate increase in the volume of intrastate traffic proper, but a fictitious or borrowed increase, drawn from the interstate traffic by the opportunity afforded by the refund receipts for interstate passengers to obtain a lower fare

by purchasing and using intrastate tickets wherever practicable. In support of this contention they cite the fact, also shown by the evidence, that contemporaneously with this increase of 15% in intrastate passenger miles there was a decrease in interstate passenger miles of 21%.

Each of these opposing theories attributes the increase in intrastate passenger miles to the decrease in rates, the difference between them being as to the class of travelers from which the increase is drawn. If, as claimed by complainant, it was drawn from the interstate traffic, it was not a benefit to complainant, but a distinct injury; and it would be a kind of grim irony to charge it up to them as a benefit derived from the decrease in rates.

The question whether this increase in intrastate passenger mileage was made by passengers whose entire journey was intrastate or was, in whole or in part, by passengers whose journey was in fact interstate, but performed in part on intrastate tickets, is one upon which there is no direct testimony and which, therefore, must be decided on probabilities. Which theory as to the origin of this increase is most in accordance with the probabilities? The fact that the increase in intrastate passenger miles was accompanied by a decrease in interstate passenger miles of an amount that corresponds so nearly with the increase in intrastate passenger miles,—the former being 3,040,272 and the latter 3,385,863 passenger miles,—creates a very strong probability that the increase in the intra came from the inter. And this probability is much strengthened by a consideration of the relative strength of the appeal to the two classes of travelers made by the decrease in the rate. It is evident that the inter passenger is much more likely to be induced to use the lower rate on a journey which he is going to take in any event, than that the general public would be in-

duced by it to take an intrastate journey which they would not otherwise take.

My conclusion from the evidence is that the increase in intrastate traffic in question is not a real increase in such traffic, but an increase derived in the main from an addition to the intra passenger mileage made by interstate passengers on intra tickets. The correctness of this conclusion I find to be strongly supported by the cases to which I have been referred by complainant's counsel, among which I mention particularly the following: *Corporation Commission of Oklahoma vs. A. T. & S. F. Ry.*, 31 I. C. C. Reports, 537; *Arkansas Rate Cases*, 187 Fed. 290; and *Boyle vs. St. L. & S. F. Ry. Co.*, 222 Fed. 539. These cases show that wherever tests have been made it has been found that where there has been a reduction in intrastate rates, without a corresponding reduction in interstate rates, the result was to increase the intrastate travel, but only at the expense of the interstate travel, and that the real increase in intrastate travel, caused by the reduction of the rate, has been negligible. As was said by the court in the last named case:

"On the part of the State it is contended that the reduced rate of two cents a mile would stimulate that traffic to such an extent that the intrastate business would be the gainer, or at least not a loser. For the interstate passenger business the company charged three cents, and in order to ascertain what the effect on that claim is, a test was made for the month of August, 1913, which, it is claimed, shows that while it increased the intrastate business, it did it at the expense of the interstate business. (The two cent rate went into effect on this road in July, 1913.) In order to get the exact factors, train auditors and collectors were, after the two cent rate was put in effect, put upon all trains crossing the borders of the state,

with instructions to make a detailed check of all passengers who bought tickets or paid fares on the train at the boundary stations of the state. These reports show that there was an abnormal increase in the purchase of tickets at those boundary stations. \* \* \*

“From the evidence the court finds as a fact that the two cents rate does not stimulate passenger traffic, except at the expense of the interstate. People are not in the habit of traveling merely because rates are lower. It is probably different when special reduced rates are made for certain occasions, but in such cases it is the special occasion which causes it.”

Before concluding the consideration of this subject, I desire to make my ruling and its effect so clear as to leave no room for doubt or misunderstanding, and this can best be accomplished by correcting a misunderstanding of it which the defendants evidently have.

In argument under this objection on page 45 of their objections, they say:

“The result of the Master’s ruling is to deny the test of experience or the necessity therefor. The result of the rulings in the deciding cases is that where there is an appreciable return, as there is in this case, upon the Master’s computation, the test of experience will be required.”

The result of these two statements is an assertion that my ruling on this subject is in direct conflict with the decided cases, and if both statements are correct, there would be such conflict; but in my view, neither of them is correct.

As regards the rulings in the decided cases, if it is true, as stated by defendants, that the decided cases hold that wherever the evidence shows that there will be “an ap-

preciable return" (which means any return at all over and above operating expenses), the courts will require the test of experience under the new rate before passing upon the validity of the rate, then my ruling is in conflict with the cases and must be modified accordingly. But I do not so understand the cases. I know of no case where this doctrine has been held. As I understand the cases, the result of them is, not that the courts will refuse relief and require a test of the rate whenever it appears that there will be an appreciable return, but that they will or will not require such test before acting in any case according as it may seem to them most proper in view of all the probabilities of the case. The fact that the evidence shows that some return is to be expected under the new rate is, of course, an important element to be considered in estimating these probabilities, but it is the size of that return, and not the mere fact that there will be some return, that is important. Given the amount of the return that the evidence thus shows is to be expected, notwithstanding the reduction in rates, the question is whether that amount will be sufficient either in itself or taken together with some augmentation to be reasonably expected to result from the reduction in rates. If it is sufficient in itself, that ends the matter; if it is insufficient in itself, then it remains to determine the probabilities as to whether that insufficiency will be overcome by increase in traffic. And those probabilities will depend upon the amount of the deficiency and the prospects of increased traffic, judging from all the conditions of the business as regards past experience, density of traffic, sparsity of population, competition, etc., etc. These considerations might be such as to call for a suspension of judgment until the rate is tested, or they might not. The insufficiency might be so small, and the prospects of increased traffic so great, that no actual test would be deemed neces-

sary in order to reach the conclusion that the rate was not confiscatory; and on the other hand, the insufficiency might be so great, and the prospects of increased traffic so small and remote, that no actual test would be deemed necessary in order to reach the conclusion that the rate was confiscatory; and again the insufficiency and the prospect of increase taken together might be such as to leave the question in such doubt that an actual test would be deemed desirable before coming to a final decision.

It was on this understanding of the law that my ruling was made. Proceeding on such understanding of the law, and applying it to this case, the question is, Into which of these three classes of cases does this case fall?

On this question it certainly cannot be claimed that it falls within the first,—that the insufficiency is so small and the prospects of increased traffic so great as to justify the conclusion that there will be no loss. The only question, therefore, is whether it falls within the second or the third class. My ruling is that it falls within the second class,—that the insufficiency is so great and the prospects of resultant increased traffic so small that it is in this case unnecessary to put the rate to actual test before reaching the conclusion that it would, if enforced, be confiscatory.

If I am wrong in this conclusion, then the case, in my judgment, necessarily falls within the third class, and a test of the rate should be required before final decision.

In that case I assume that the court would not at present make any final disposition of the case, but would order that the test be made and retain jurisdiction of the case until the test had been completed and the results shown; and then decree accordingly.



By their objection No. 29, the defendants claim that I was in error in refusing to permit the introduction of, or to consider, the report showing passenger earnings for the fiscal year 1914.

In this objection defendants are mistaken as to the facts. The record shows that no such report was ever offered in evidence. The defendants' counsel reserved the right to apply to the Master or the court for leave to go into the matter of the passenger accounts of the complainant for the year 1914. No application for such leave has since been made to me; and if such application were now made, I am unable to see how it could consistently be granted without including also the fiscal years 1915 and 1916, which have now been completed, or to see how they could be used for any purpose, since 1913 is to be taken as a typical year and is the only year for which property values have been determined. (See Record pp. 10,716-8.)

---

*Complainant's Freight Business.*

The testimony in this case was all taken and the argument completed before the decisions by the Supreme Court of the United States in *Norfolk & Western Ry. Co. v. Conley*, and *Northern Pacific Ry. Co. v. North Dakota*. Afterwards, I requested counsel to state what matters that had been litigated in this case were affected by these decisions. Complainant took the position that the effect of the decisions is:

(a) To render it unnecessary for the Master to make any division of freight revenues or expenses between the inter and intra business.

(b) To render it unnecessary to make any division of exclusive freight property between the inter and intra business.

(c) To render it unnecessary to determine any property values, revenues or expenses, attributable to the ore business as separate from other freight business, inter or intra.

(d) That it will be necessary to value the entire property in Michigan, and to determine the entire revenues and expenses in Michigan.

(e) The opinions do not affect in any way the necessity of valuing the exclusive passenger property and dividing it between inter and intra; nor the valuing of the property used in common in the freight and passenger service; the dividing of it between passenger and freight; and the dividing of the passenger proportion between inter and intra. Nor do they affect in any way the necessity of making like determinations and divisions of expenses between freight and passenger, and of the passenger proportion thereof between inter and intra. Nor do they affect in any way the necessity of ascertaining the freight and passenger revenues, respectively, and as to the passenger revenues, the inter and intra amounts thereof.

Defendants agreed with complainant as to "d" and "e" but were of the opinion that "a", "b" and "c" were matters which I should cover in my findings and report. I therefore proceed to cover all of the freight matters thus called for and not hereinbefore discussed.

*Division of Michigan Freight Property Between the  
Intra- and Interstate Business.*

The value of the complainant's Michigan freight property is shown in Exhibit 1 hereof, wherein I have found the value of the complainant's entire property in Michigan and also the portion thereof used in its passenger

business, the value of the freight property being the balance of all the property valued by me in Michigan.

The parties are agreed that division of this freight property between the intra- and interstate business should be upon the proportion which the Michigan freight ton miles in the intrastate and interstate business, respectively, bear to the total Michigan freight ton miles.

The records of the company prior to 1912 were not so kept as to show the division of the freight ton miles between intra and inter, but they were so kept as to give these figures for the years 1912 and 1913, and it is my judgment that the use of the average of these two years will express a more stable relation than the use of the mileage of any one year, and I have therefore taken this average, by which I arrive at a division which assigns 26.48% to the intrastate and 73.52% to the interstate.

Before applying these percentages, I have deducted the freight proportion of the value of the so-called Soo Bridge, and assigned it entirely to the interstate business, and I have also assigned to the interstate business the value of the Marquette ore docks.

Attached hereto, marked "Exhibit 8", is a summary of the division of the freight property in accordance with this method.

*Division of Michigan Freight Revenues Between the Intra- and Interstate Business.*

The Michigan passenger revenues I have already determined. The balance of the Michigan revenues are freight.

All revenues for carrying freight, which constitute the bulk of the freight revenues of the complainant, have been allocated as between the intrastate and interstate business. Those revenues which could not be so allocated have been apportioned between the intrastate and inter-

state business on the basis of the allocated revenues. There is no disagreement between the parties as to this being a correct method.

*Division of Michigan Freight Operating Expenses Between the Intra- and Interstate Business.*

The passenger operating expenses of complainant having already been determined, the remainder of the operating expenses are assignable to freight, and it is only necessary to divide such freight expenses between the intrastate and interstate business in Michigan.

It is contended by the complainant that the cost of doing the intrastate freight business is much greater per ton mile than the cost of doing the interstate freight business. Witnesses in this case testified that the expense per ton mile was at least twice as great in the intra as in the inter. It is contended that this testimony is not subject to the criticism of somewhat similar testimony in the Minnesota Rate Cases. I am not able to agree with this contention.

I think that the fact is established by the testimony that there is a greater expense, but the amount of it is not by such opinion testimony satisfactorily established.

But the complainant claims that even if the haulage cost in the two services is the same per ton mile, nevertheless terminal and station expenses cannot be properly divided on the relation of the freight ton miles made in the intra- and interstate services, respectively, but should be divided in proportion to the tons handled in the stations and terminals.

It seems to me that in this contention complainant is correct. The cost of assembling and delivering freight in stations and terminals has no relation to the miles over which such freight is carried.

If, then, the terminal and station expenses can be de-

terminated with reasonable accuracy, it follows that they should be divided between the intra- and interstate business in proportion to the number of tons handled at stations and terminals. The complainant claims that such cost can be ascertained.

In general outline, the method of making the proof was as follows:

Complainant does a considerable amount of iron ore business in the haulage of ore from mines to ore docks at Marquette, from which docks the ore is loaded into vessels. This business is entirely interstate. The freight operating expenses for the fiscal years 1912 and 1913 were first separated so as to show with approximate accuracy the expenses chargeable to the transportation of to these docks and those chargeable to transportation of other freight which is in part intrastate and in part interstate business.

The operating expenses of the other freight business for the years 1912 and 1913 were then analyzed so as to show the stational and terminal expenses included therein, viz, the expenses arising from services performed in originating and delivering freight at stations on the road in Michigan, and in receiving and delivering freight interchanged with other carriers at Michigan junction points.

These stational and terminal expenses consist of the entire amount of yard expenses and the station expenses attributable to the freight business under the general heading "Transportation Expenses", and of sections of certain other expenses as follows:

It was proved, and is undisputed in the case, that 39.01% of the time of all freight trains passing over complainant's road was spent at stations between terminals, during which time they were engaged in switching operations or doing other stational work. From this it

may fairly be inferred that 39.01% of the following expenses of road freight trains under the general heading "Transportation Expenses" is chargeable to stational or terminal service, viz: "Engine House Expense—Road", "Fuel for Road Locomotives", "Water for Road Locomotives", "Lubricants for Road Locomotives", "Other Supplies for Road Locomotives", "Road Engine Men", "Road Train Men", and "Train Supplies and Expenses".

For the same reason, 39.01 of the following expenses under "Maintenance of Equipment" is chargeable to stational or terminal service: "Superintendence", "Steam Locomotives—Repairs", "Steam Locomotives—Renewals", "Steam Locomotives—Depreciation", "Freight Train Cars—Repairs", "Freight Train Cars—Renewals", and "Freight Train Cars—Depreciation".

The total of these stational and terminal expenses thus determined aggregated in 1912 \$405,365, and in 1913 \$469,405.

The evidence shows that the movement of all freight traffic in 1913, other than ore to docks, was analyzed, and the number of tons of intrastate freight and the number of tons of interstate freight interchanged with other carriers at Michigan junctions ascertained. There was also ascertained the number of tons of intrastate freight, and the number of tons of interstate freight originated at Michigan stations, and the number of tons of intrastate freight and the number of tons of interstate freight delivered at Michigan stations.

It was shown that in 1912 and 1913 more than 95% of all freight traffic in Michigan (other than ore) was transported in car-loads.

It was shown by the undisputed testimony that the stational or terminal service performed in interchanging carload freight with other carriers at junctions is much



less per car than that performed in originating or delivering it at stations on the line of the road, and that on the average it was not more than one-fourth of the latter.

Accordingly, the number of tons of interstate freight received from connecting lines at Michigan junctions, and the number of tons of intrastate freight delivered to connecting lines at Michigan junctions, was multiplied by one-fourth, as such freight received one-fourth terminal service at the junction.

The number of tons of intrastate freight that originated at Michigan stations on the line, and the number of tons of intrastate freight delivered at Michigan stations on the line, was multiplied by one, as such freight received one terminal service.

The total of those products of intrastate business amounts to 1,424,952 and indicates the volume of stational or terminal service given in Michigan to intrastate freight.

Exactly similar computations were made on the interstate freight business, and the total arrived at, viz, 1,159,939, indicates the volume of stational or terminal service given in Michigan to interstate freight.

The volume of terminal service to intrastate freight 1,424,952 equals.....55.3%

The volume of terminal service to interstate freight 1,159,939 equals.....44.7%

We thus arrive at the percentages which should be applied in the division between the intra- and interstate freight service in Michigan of the stational or terminal expenses for the years 1912 and 1913, respectively, hereinbefore stated.

1912 55.3% of \$405,365 = \$224,167 intrastate

44.7% of 405,365 = 181,198 interstate

1913 55.3% of 469,405 = 259,581 intrastate

44.7% of 469,405 = 209,824 interstate

All the other freight expenses (i. e., all expenses except stational expenses and general expenses), viz, \$672,404 in 1912, and \$755,707 in 1913, I have divided between the intrastate and interstate business in the proportion that the intrastate ton miles and the interstate ton miles bear to the total ton miles in each of the years, respectively.

The "General Expenses", which amounted to \$51,171 in 1912, and to \$50,335 in 1913, I have divided between the intrastate and interstate business on the basis of the totals resulting from the division of all other freight expenses as hereinbefore described.

There is no dispute between the parties as to the division of freight expenses except in the matter of the terminal or stational expenses and the "General Expenses". These stational and general expenses I have divided in the manner above described as being the most equitable method of division.

*1912 Freight Operating Expense.*

	Total	Intrastate	Interstate
Freight other than ore to			
Marquette Docks .....	\$1,129,334	\$434,902	\$694,431
Ore to Marquette Docks	246,346		246,346
	<hr/>	<hr/>	<hr/>
Total 1912 .....	\$1,375,680	\$434,903	\$940,777

*1913 Freight Operating Expense.*

	Total	Intrastate	Interstate
Freight other than ore to			
Marquette Docks .....	\$1,276,037	\$509,026	\$767,011
Ore to Marquette Docks	210,030		210,030
	<hr/>	<hr/>	<hr/>
Total 1913 .....	\$1,486,067	\$509,026	\$977,041

It is claimed by the defendants that the testimony upon which I base my finding as to the average stational service

given a ton of freight in the interchange thereof with another railroad consists entirely of opinion testimony, and that opinion testimony does not furnish a sufficient basis for such a finding.

The finding, however, is based only in part on opinion testimony as hereinafter explained, and such opinion testimony was not of the same character as that which was criticized in the Minnesota Rate Cases. The opinion evidence on this point in this case was from employes of the complainant thoroughly familiar with its method of interchanging freight, and of the amount of service required therein. It was shown further, undisputed in the case, that in general such interchange was made in loaded cars placed on delivery tracks conveniently arranged so that little expense was involved in either putting the car onto the exchange track or taking it therefrom.

It was further shown that the complainant, in receiving freight at stations on its line, is compelled in general, first, to spot cars to be loaded, often at industries considerably distant from its main line, then, when the cars are loaded, haul the cars to its main line; and that in delivering freight, the service is the same with the process reversed.

It was further shown in the evidence that at junction points usually several cars at a time, amounting at some junctions to more than 500 cars a week, are interchanged, whereas in the delivery or receipt of freight at stations on the line, the deliveries are in fewer car lots, there being over 200 stations on the road in Michigan where freight is originated and delivered as against only 12 junction points where freight is interchanged. The fact that the interchange business involves less stationary service than is involved in originating and delivering freight at stations is proved by undisputed evidence; the amount of this excess is shown only by opinion evidence. From

this opinion evidence I find that the relative service on this interchange business does not exceed one-fourth of the service that is performed in originating or delivering freight at stations on the line of the road. The results of this division are as above shown.

If, however, the court should be of the opinion that I am wrong in giving weight to this opinion testimony of employes, based on actual experience, a division of terminal and stational expenses can be made upon the assumption that interchange freight receives the same terminal or stational service per car as all other freight.

In that event, the division of the operating expenses between intra and inter will be as follows:

*1912 Freight Operating Expenses.*

	Total	Intrastate	Interstate
Freight other than ore to			
Marquette Docks .....	\$1,129,334	\$393,122	\$736,212
Ore to Marquette Docks	246,346		246,346
	<hr/>	<hr/>	<hr/>
Total 1912 .....	\$1,375,680	\$393,122	\$982,558

*1913 Freight Operating Expenses.*

	Total	Intrastate	Interstate
Freight other than ore to			
Marquette Docks .....	\$1,276,037	\$460,930	\$815,107
Ore to Marquette Docks	210,030		210,030
	<hr/>	<hr/>	<hr/>
Total, 1913 .....	\$1,486,067	\$460,930	\$1,025,137

The percentages which I have used for the division of stational and terminal expenses are derived from carload freight. This I consider sufficiently accurate, as this is, as I have already stated, more than 95% of the entire freight.

The complainant also made an analysis of the less than carload freight in Michigan (see Compl't's Ex. 87, Delf) for the year 1913, which shows that the proportion of such service given to the intrastate business is more than the proportion derived from the carload freight, but as the amount of less than carload freight is very small, I have disregarded this difference and used here only the proportions arrived at from the carload business.

The detail for the division of terminal expenses is to be found in complainant's Exhibits 74 to 80, inclusive, Delf.

*The Rate of Return to which  
Complainants are Entitled.*

Having found the value of the property employed, and the rate of return upon that value that is to be expected under the two-cent rate, we come to the third and final main question, viz: Is that rate sufficient to constitute the fair return to which the complainants are entitled under the Constitution?

As this question depends upon what rate of return it is that the company is entitled to, I will proceed to consider the latter question as the proper method of determining the former.

In some instances, it is possible and practicable to determine the former question without determining the latter; for example, it may be found that a return of  $21\frac{1}{2}\%$  is insufficient without finding exactly what percent is required in order to afford a fair return; but such finding would not be a complete finding in any case; and when made in the report of a Master, it is also insufficient. It is there insufficient because the Master's finding as to what rate of return is to be expected is subject to review, and to a change which would raise a new question as to the sufficiency of the expected rate and

thereby render immaterial his finding as to the sufficiency of the rate found by him to be expected; and it would be incomplete because it is impossible to say, with any proper degree of certainty, that any given rate is insufficient without adopting and applying a criterion by which to judge such sufficiency; and when such criterion is adopted and fully applied, the rate to which the company is entitled is necessarily thereby determined.

It is evident, therefore, that the determination of the proper rate of return is as clearly a part of the duty of the Master as the determination of any other question in the case, and I shall therefore proceed to determine that question.

For the determination of that question, we have already provided the true criterion of judgment, so that it is here only necessary to apply that criterion, the same being found in the findings of law made by me in the beginning of this report at the request of the defendants, as follows, viz:

“The rate of return to which a property is entitled is ordinarily that at which capital will seek investment in properties of similar character in that community or locality.”

This enunciation of doctrine is also accepted by complainant and there seem to be no room for question that it is, both on economic and on equitable principles, the true and only true criterion by which to judge the fairness of a rate of return. It gives to the public the service at as low a rate as they could obtain it in the open market if the service were a commodity obtainable in the open market, and at the same time, it does not take an undue advantage of the company by compelling them to render the service for less than it is fairly worth when considered as a marketable commodity. Inasmuch as it



is accepted by both parties, the only question regarding it which can arise here is as to the correctness of its application.

Proceeding now to make such application, we find, curiously enough that, although proposed by one party and accepted by the other, it has not been directly applied by either.

In the briefs filed, the complainants claim that the fair rate of return to which they are entitled is eight percent (8%) and they base their claim upon the ground of general equity, but they do not claim, unless by implied inference, that that rate is equitable because it is the minimum rate at which capital would seek investment in this or similar property; and the defendants make various claims on various grounds with no reference to the criterion in question and no apparent relation thereto. As stated in their brief, the complainants' claim is as follows: that

“under all the circumstances, considering the nature and extent of the traffic, the character and efficiency of the service, winter and other unusually hard operating conditions, the value of the property devoted to the public use, the results of its entire railroad operations for the last twenty-seven years, and further taking into account, inter alia, the possibility of loss of its ore and other business, the exhaustion of forest products and the water and all rail interstate and intrastate commercial and competitive conditions it encounters and the actual lack of substantial increase in the volume of both intrastate and interstate passenger business as the years roll by, the complainant is entitled to earn net not less than eight percentum (8%) annually upon the fair value of all its property in Michigan devoted to the public use—and net not less than eight percentum (8%)

annually upon the fair value as herein apportioned, of all the property of the complainant in Michigan devoted to its intrastate passenger business."

Applying to this the above criterion, this contention is sound if eight percent (8%) is the minimum rate of return at which capital will seek investment in this or similar property, but otherwise it is not. If capital will not seek investment in this or similar property at a less rate of return than eight percent (8%) the complainants are entitled to that rate; if it will seek investment at a lesser rate, then they are entitled to only the lesser rate. The question whether capital will thus seek investment at a lesser rate and if so at what rate, the complainants do not discuss; and before proceeding to discuss it, I will direct attention to the defendants' claims.

The various claims which, as I have said, are made by the defendants, are set forth in their brief as follows:

"The amount of return which should be permitted varies in different localities, and with different classes of investment, the high mark being regarded as six percent. The question of what is a sufficient rate is a matter of proof; it is incumbent upon the complainant to show the rate of return to which its property is entitled. It has not made such proof, and for that reason, if there be any return, the court must regard it as sufficient. In Michigan, the interest rate is five percent, the rate paid by complainant upon certain of its bonds is four percent, and it is a well known fact that investments in railroad property in this state, do not net more than the last named rate." (Brief p. 148.)

that, if the question is to be determined by the court in the absence of such specific evidence, then

"the rate of return is necessarily governed by the

going rate of interest or return upon similar investments in the community." (Brief p. 140.)

and that

"in Michigan, the interest rate is 5%, the rate paid by complainants on certain of their bonds is four percent, and it is a well known fact that investments in railroad property in this state do not net more than the last named rate." (Brief p. 148.)

Also that

"6% is generally recognized as a sufficient rate of return in all parts of the country." (Brief p. 147.)

Also that

"the amount of return which should be permitted varies in different localities and with different classes of investment, the high mark being regarded as 6%." (Brief p. 148.)

Herein, it will be noted, the defendants set up another claim which, if sustainable, is decisive of the case in their favor. If, as they here claim, there is no evidence from which to find the rate of return to which complainants are entitled, or to find that they are entitled to more than the rate of return which is to be expected, there can be no finding that the prescribed rate is confiscatory. The claim, however, is, in my judgment, not well founded. It assumes that the only evidence from which the proper rate of return can be found is opinion evidence based on the judgment of experts in railway financiering—an assumption that is unwarranted. Such expert evidence is not a necessity in this or any other judicial procedure, but is merely an aid to judicial deliberation. Its function is, not to prove the facts on which judicial action is to be taken, but to assist the court in drawing the proper inferences from facts proved by other evidence.

It is from these facts that the court must draw its conclusions, whether it has or does not have the help of expert opinion. It would be helpful in this case to have the opinion of experienced financiers as to the minimum rate at which capital would seek investment in this property, but it is not a necessity. Both the expert opinion and the judgment of the court must needs be based upon the facts proven to, or cognizable by the court, and the function and duty of the court to pronounce judgment on those facts is the same, whether it is performed with or without the aid of expert opinion. Those facts are the circumstances and conditions of this property which affect its earning power, both present and prospective, and it is upon them, as they are shown in this case, that the court is to form its judgment.

The next claim of the defendants is in the nature of an alternative to that last mentioned, viz, that if the question is to be determined by the court in the absence of expert evidence, then,

“the rate of return is necessarily governed by the going rate of interest or return upon similar investments in the community.” (Brief p. 140.)

This claim is exceedingly indefinite. The “going rate of interest” and “the rate of return upon similar investments in the community” are wholly dissimilar and disconnected facts, and to say that the rate of return is to be governed by one or the other of these facts is to leave the matter suspended in mid-air. If it is governed by one, the other has no bearing upon it. However, this does not matter, for, in my judgment, it is governed by neither of these for the following reasons:

As regards the first—the going rate of interest. The subject of interest rate is one that calls for particular attention in this discussion because it is frequently and variously treated as determinative of the proper rate of

return, and also because, although not so determinative in fact, it has an indirect bearing on the determination of that rate. Such attention, however, will be deferred for the present as it is sufficient to say here that the claim here made by defendants regarding interest rate is inconsistent with their claim that it is the rate at which capital will seek investment in similar property that is to govern, and it is not, therefore germane to the application of the latter principle which we are here making, but on the contrary, is, as a governing factor, necessarily excluded from the case by the adoption of the latter principle.

*Rate of Return from Similar Property as a  
Criterion.*

As regards the defendant's alternative to interest claim, viz, that the rate of return is to be governed by the return being realized from similar property in the locality—this, also, is inconsistent with their claim that it is the rate at which capital will seek investment that is to govern.

The mere fact that a certain kind of property is paying a certain rate of return on its reproduction cost does not prove that other capital would seek investment in that property at that rate, or tend to prove it. There is always a great deal of property that capital could not be induced to replace at the rate of return which is being realized from it. Moreover, every "similar property in the locality" if there were such, would be operating under rates artificially limited by statute, and its rate of return, therefore, could furnish no criterion for the purpose in hand.

Furthermore, such a criterion could not, in any event, be applied here because there is no other "similar property in the locality" whose rate of return could be taken

as such criterion. This railroad property is practically *sui generis* in this regard and must be judged accordingly. In order to be a "similar property in the locality" any other property would have to be a railroad property serving the same territory and would therefore be practically a duplication of this property.

The foregoing claims made by defendants are such that I am unable to gather from them exactly what it is that the defendants claim is the rate of return that the complainants are entitled to, further than that it cannot exceed six percent, in any event, and should be considerably less.

#### *Relation of Required Rate of Return to Rate of Interest.*

The rate of return which we are seeking to determine, bears a kind of superficial resemblance to rate of interest, and in consequence, it has not infrequently been confused or unduly associated with the latter as substantially identical therewith, as was done in the above mentioned claim of the defendants.

The fact is, that the rate of return which would cause capital to seek investment in property is closely associated with and much influenced by the existing interest rate, but this is due to an external relationship between the two and not to any substantial identity. In determining the proper rate of return, therefore, it is important to consider the subject of interest rate and its precise relationship to the rate of return that will suffice to attract capital to a given property investment.

There are three distinct rates of interest, two of which are fixed by statute and the other by convention, viz: (1) the maximum rate permitted by statute to be contracted for, (2) the rate provided by statute where no rate is stipulated, and (3) the prevailing or going rate



of interest in the community. Of these, the two former have no relation whatever to the question as to what would be a proper rate of return from a given property investment. The fact that the legislature considers a certain percentage the highest rate of interest that parties should be permitted to contract for or that a certain other per cent is the proper rate that a party should be required to pay for the use of money in the absence of a stipulated rate is no indication, whatever, of the minimum rate that would induce capital to reproduce and operate this property. There is no relationship here between the latter and either of the two former that would make the one in any respect the measure of the other, or give it any particular bearing in that regard.

But with regard to the going rate of interest the case is different. That rate does afford some indication of the rate that would be required for the latter purpose because both are dependent upon the money market and each influences the other. But they are not the same. If the going interest rate is 6% it does not follow that the same money market that furnishes the money for a 6% interest investment will be induced to furnish the money for a property investment for a prospective 6% return—that it will be induced to furnish the funds for the construction and operation of a railway for the prospective maximum return of 6%. On the contrary, the fact that the money can be invested at 6% in interest bearing securities proves that investors cannot be induced to invest in this property for a prospective maximum return of 6%, for the very obvious reason that the former is, as regards return, a certain, while the latter is an uncertain, investment—the one an interest bearing investment, and the other a property investment. It is a truism of economics that a higher prospective rate of return is demanded for a property investment than for

an interest bearing investment — usually very much higher.

How much greater the prospective rate of return would have to be in any particular case would depend upon the degree of uncertainty as regards the realization of the prospective return, and that degree of uncertainty would depend upon the facts and circumstances of the particular case. Given the going rate of interest, the problem in every individual case would be to estimate the additional return that would be required in order to compensate for the uncertainties and consequent risks of that particular enterprise. The first step, therefore, is to determine the rate that is to be taken as the going rate of interest. The going rate of interest fluctuates at different times and in different places, according to a great variety of circumstances, but the fluctuations are not very great and a fairly constant average rate is maintained. It is safe to say that the going rate of interest in Michigan on moderate amounts reasonably secured is 6% and in large amounts well secured from 5% to 5½%. Upon the large amount that is involved in this case, I find that the going rate of interest is 5%. On this basis the complainant's claim of 8% would call for an increase of 3% over the interest rate in order to compensate for the uncertainties of the business, and enlist the required capital. Those uncertainties, as above quoted from complainant's brief, are, severe winters and other unusually hard operating conditions, the exhaustion of forest products, the possibility of a loss of its ore, and other business, the competitive conditions encountered both from water and rail competition, and the lack of any substantial increase in the business during the 27 years of operation. Precisely what effect these uncertainties would have upon the mind of a prospective investor, it is, of course, impossible to say, but that they would cause him

to demand considerably more than the going rate of interest as a condition of making the investment is very certain.

Some light upon this question is obtainable from the company's own experience.

When the State of Michigan and the United States desired the construction of the road from Marquette to Houghton, which now forms part of complainant's system, it was found necessary to make large donations of public lands in aid of the project although a passenger rate of five cents per mile was allowed to be charged. The same thing was true when the State desired a road to be constructed from St. Ignace to Marquette, and this piece of road it was never possible to operate profitably as a separate property.

I think it a fair inference from the testimony that the line between Nestoria and Duluth was constructed chiefly in the hope of remedying this situation. The history of the earnings of the complainant for the 27 years since it acquired these properties does not show that the conditions and uncertainties have since changed for the better, and it is very doubtful whether even a prospective return of 8% would induce capital to seek investment in this property. To what extent those conditions have, in fact, changed, it is hard to say, but it is well known that the country tributary to the road is, generally speaking, still in an undeveloped condition—a condition as regards development and opportunities and prospects for the earnings of this railroad, little, if any more favorable than when the consolidated company was formed.

From the foregoing considerations and viewing the subject from every standpoint, the conclusion would seem to be justified that if the required capital could be induced at all to reproduce and operate this property, it could not be so induced by a prospective return of less

than the 8% claimed by complainants which would be an increase of 3% over the going rate of interest as found by me. I do not, however, find that the complainants are entitled to that rate of return, but following the rule of resolving all doubts in favor of the defendants, I reduce the 3% increase by one-half, and find that the minimum rate of return which the complainants are entitled to under the constitutional guaranty is 6.5%.

The foregoing conclusion is predicated entirely on the application of the criterion, that it is the per cent of return that would cause other capital to seek investment in this property, that the company is entitled to, which criterion is accepted by both parties in this case. The adoption of this criterion by both parties in this case necessarily excludes all others, and I have, therefore, not deemed it necessary to discuss any other. There is, however, a different theory which ought perhaps to be referred to, the theory, namely, that the proper criterion is the rate of interest prescribed by statute where no rate is stipulated—that if the prescribed rate of fare will yield a rate of return equal to that statutory rate of interest the rate of fare cannot be held confiscatory. This theory, it seems to me, is the result of a misapprehension of the particular kind of so-called confiscation that is here complained of—the same misapprehension that gave rise to the doctrine formerly held by the courts but now abandoned, that if the rate of fare yields any return at all on the property, the rate is not confiscatory. The theory assumes that the act here complained of is confiscation in the ordinary sense, which means the taking away of the ownership and possession of property held in private ownership, and transferring it to the public; whereas it is in fact not confiscation in that or in any proper sense of the word confiscation as ordinarily used but an unlawful act that bears some resemblance to con-

fiscation in that it takes away from private owners and gives to the public some of the benefits of ownership. Whether it is thus confiscatory or not depends not upon whether the owners are deprived of the ownership of their property or of any portion of it, but whether they are deprived of any of the benefits of their ownership. If they are deprived of any of these benefits, that is to say, deprived of any portion of the fair return from the property to which they are equitably and therefore constitutionally entitled, the act is confiscatory within the meaning of that word as used in this class of cases, and therefore unlawful.

Assuming that the company is entitled to a full and fair return upon the value of the property, it will seem to be so obvious as to admit of no argument that if by legislative enactment any portion of that fair return is taken away there is confiscation in effect as certainly as though some portion of the physical property were actually taken.

This being so it will be seen that the fact that the legislature considers a certain rate of interest to be the fair measure of damages for breach of a contract for the payment of money is no criterion or indication by which to judge the question whether a given rate of fare is or is not thus confiscatory.

### *Resume.*

I have now finished the consideration of the three principal questions on which depends the one main question in the case—that one question being whether the prescribed rate will afford a fair return on the value of the property employed and the three principal questions subordinate thereto being, (1) the value of the property employed, (2) the rate of return thereon to be expected under the prescribed rate, and (3) the rate to which the

complainants are entitled under constitutional guaranty.

I have found (1) the entire value of complainant's property to be \$13,901,938; (2) the value of the property employed in the complainant's Michigan intrastate passenger service to be \$2,741,872; (3) the rate of return to be expected thereon under the prescribed rate to be 2.24 per cent, and (4) the rate of return to which complainants are entitled under the constitution to be 6.5%.

These results differ widely from those claimed by either of the parties. The latter are as wide apart as the poles.

The complainants claim that the present value of their entire property is \$17,044,081; while the defendants claim that it is only \$11,457,169; the difference between the two claims being \$5,586,212, or approximately 50 per cent of the latter. As between these conflicting claims my valuation of \$13,901,938, it will be noted is much nearer that of the defendants than that of the complainants, being \$3,142,143 less than the complainants and \$2,444,769 more than the defendants. And as a matter of actual valuation it will be seen on examination that the difference between my valuation and that of the defendants is much smaller than those figures would apparently indicate, because the difference above mentioned is largely made up (more than 50 per cent) of items disputed *in toto* by defendants and omitted entirely from their valuations: those items amount to \$1,347,657, and are as follows:

Contingencies (Schedule 37).....	\$ 400,000
Interest during construction (Schedule 40).....	547,657
Taxes during construction (Schedule 40).....	100,000
Appreciation .....	300,000
	<hr/>
	\$1,347,657



The questions involved in these items although tributary to the work of valuation are questions of law and of method of valuation rather than questions of value.

Deducting the total of these disputed items from the excess of my valuation, over that of the defendants, makes the difference in actual valuation to be \$1,097,112.

Of this latter amount the greater part consists in differences of land valuation, those differences amounting to \$634,828. The total of my land valuations is \$1,780,239, being \$329,616 less than that claimed by complainants, and \$634,828 more than the value conceded by defendants. Upon these differences in land valuation a word of general comment and explanation here seems desirable.

Land valuation, always a difficult matter, is especially difficult here, because of the great number of parcels and the wide differences between them, both as regards locality, character, and surrounding conditions and also because the valuation must be made from the testimony. It is always easy to find expert appraisers who will place a high value on a given parcel of land and equally easy to find those who will place a low value, and the latitude for honest difference of opinion is frequently such that there may be a wide difference between estimates made by witnesses equally honest and trustworthy. Such instances are quite numerous here, and this together with the great number of separate parcels to be valued and the great volume of testimony to be considered have made the task of land valuation a very arduous one. There are more than 160 different descriptions of land to be valued separately and several thousand pages of testimony relating thereto. To the work of valuing all of these lands in the light of the testimony introduced, I have given a great deal of time, and study—possibly more than the exigencies of the case absolutely required;

but if so, it was because I thought it better to err, if at all, in that direction, rather than in the opposite one. Moreover I am thereby enabled to feel a greater assurance than I otherwise could of the fairness of my valuations. I am convinced beyond a reasonable doubt that, while my valuations may, in some individual instances err on one side or the other, the total of my land values is a fair and conservative estimate of the value of complainants' lands such as is called for in a rate case, and that it does substantial justice to both parties.

The residue of the excess of my valuation over that of the defendants, viz: \$462,284, is largely due to differences in estimates of degree of depreciation, affecting present value, rather than direct estimates of value. In two of such instances, amounting to \$176,124, the question in dispute was not as regards the amount of depreciation, but whether there was or could be any depreciation whatever. These instances were Ballast and Track Laying and Surfacing; the defendants claiming that the former had depreciated in the amount of \$107,000 and the latter in the amount of \$63,124. Aside from these items the excess of my valuation of the physical property other than lands over that of the defendants is only \$292,160, a considerable part of which consists of differences in amount of depreciation. Here as in the case of land values, I believe my valuation to be substantially just to both parties and that the errors, if any, cannot be such as would materially affect the final result.

With regard to the rate of return on these property values to be expected under the prescribed rate, the parties are no less at variance. The complainants claim that according to the results of the business of 1913 the results to be expected from the Michigan intrastate passenger business under the reduced rate will fail to pay any return at all on the value of the property; not only

so, but that it will fail even to pay operating expenses by the sum of \$32,794.10.

On the other hand the defendants claim that the Michigan intrastate passenger business under the reduced rate will according to the results of 1913, be highly remunerative and will yield a very large return on the value of the property employed therein. They present seven different estimates of the same made upon as many different bases. These vary in amounts and percentages of return, but each claims a very high rate of return on the value of the property employed in the passenger service—the lowest being 11.73 and the highest being 21.74. They are as follows:

	Passenger Intrastate	Freight
1	21.74	3.70
2	19.58	4.30
3	18.22	4.68
4	15.50	2.58
5	19.25	1.72
6	13.04	3.19
7	11.73	3.56

In all these claims the valuations of the property and its allocations and divisions between services are substantially the same, and in all of them the amounts of total income are the same. So that the variations of percentages between the different estimates are due chiefly to variations in the bases of division, of property, income and expenses.

In these claims the total property valuation taken by defendants is \$11,457,169; the passenger proportion \$2,360,305 and the intrastate \$1,547,888. The total property valuation thus taken (\$11,457,169) is arrived at by applying to the Riggs' appraisal of 1913, the modifications which defendants claim should be made. These

estimates are thus made on a basis of reproduction cost, although the defendants claim that it is commercial value rather than reproduction cost value that is to govern, and that the former is shown by the evidence to be a less amount than the latter, viz, \$11,144,946. It is immaterial, however, whether these estimates are based on the one valuation or the other, for they have no bearing on the question whether the statute is confiscatory, because they are all based on an assumption which prejudges the question of confiscation—the assumption, namely, that there will be no reduction in earnings in consequence of the reduction in rates. They make no allowance for any reduction in earnings, but assume that the earnings under the 2 cent rate will be at least as great as they have been under the 3-cent rate, because of increased traffic. When this assumption is made it is idle to go farther. If the new rate will not reduce the earnings either gross or net, the statute can, of course, by no possibility be confiscatory and the case is ended then and there. Any division of property or expenses or computations of percentages made thereafter would be useless as they could not alter the fact that the statute is not confiscatory in any event.

These estimates and computations, however, are instructive in their reflex bearing on the question of the division of property and expenses between passenger and freight—a bearing which tends strongly to confirm the method of division adopted herein. There can be no question that in the regulation of rates either by the State or otherwise, passenger rates and freight rates should be adjusted with a view to producing an equitable division of the burdens to be borne by travelers and shippers respectively so that neither shall be compelled to bear the proper burdens of the other. The two services, passenger and freight, although necessarily treated as separate and

distinct for the purposes of this case, are, to a great extent, a joint enterprise in which each is largely dependent upon the other. They are so dependent, because under existing rates, neither could exist financially without the other. More than three-fifths of all the property employed by the complainants in railroad use is used in common by both services and as all this common property would be required for the rendition of either service alone in the absence of the other, neither service could be rendered by itself alone without a large increase in rates for that service—an increase in all probability greater than the business would bear. It is quite certain that this road would not be built either as an exclusive freight road or as an exclusive passenger road. Hence it must be assumed that the rates fixed by the State are adjusted with a view to producing a proper adjustment of burdens to be borne by the two services respectively. And as it would be necessary in making such adjustment to make a division of the common property and expenses, it must also be assumed that the State before enacting this statute made such division and made it with that end in view. This being so, is it possible to assume that the method of division of common property and expenses employed by the State for this purpose was the method here employed by defendants, or one that would be productive of such results as are shown by these estimates to be produced under the method of division employed by defendants? According to one of these estimates the passengers traveling on complainants' road are paying a return of 21.74 per cent on the value of the property employed in their service, while the shippers of freight are paying only 3.70 per cent on the value of the property employed in their service; according to another of the estimates the former are paying 19.35 per cent and the latter only 1.72 per cent and all of these show a similar

great disparity in per cent of return. And as above pointed out, this disparity is due chiefly to the method of division employed. As it cannot be supposed that the State would make an adjustment of rates which would yield so large a return on the passenger property, and so small a return on the freight property, thereby either compelling passengers to bear a large part of the burden properly chargeable to shippers or else confiscating a large part of the company's freight property for the benefit of the shippers, it would seem clear that the defendants' method of division is not that which was employed by the State in adjusting the rates, or a method of division which should be chosen in preference to that adopted herein. As the sole purpose of the division is to arrive at an equitable apportionment of the burdens necessary to be borne, in choosing one or the other of two proposed methods that one is to be chosen which will produce the most equitable apportionment of burdens. Under the method of division employed by me, the rate of return on the two classes of property also exhibits an inequality similar in kind to that shown by these estimates, but far less in degree, the rate of return on the intrastate passenger property under the 3 cent rate being 6.89 per cent and on the intrastate freight property 3.08 per cent.

In considering the question of the division of the common property it is to be borne in mind that the division is primarily and principally a matter between travelers on the one hand and shippers of freight on the other, rather than between the company and the public.

What the company is entitled to, and all that it is entitled to, under constitutional guaranty, is a fair return on the value of the entire property both freight and passenger, and except where, as here, a separation becomes necessary because one rate only is involved, it is immaterial to the company whether passenger and freight rates



are as regards each other equitably adjusted so long as the total return is sufficient.

It appears in this case from my findings that the entire return which the company has been receiving under existing rates is insufficient to pay the fair rate of return upon the entire property to which they are entitled, and that the deficiency is due almost entirely to the failure of the freight service to pay a fair return on the value of the property employed by it; and this is so even where the freight property is determined by the division of the common property on the basis adopted by me. Even there it appears that the rate of return on value of property employed paid by shippers of freight is but little more than 50 per cent of that paid by travelers. And yet, notwithstanding this fact the defendants would here justify the proposed reduction in passenger rates by a division of common property and expenses which would greatly increase the proportion chargeable to freight, and correspondingly decrease the proportion chargeable to passenger, thus greatly increasing the mal-adjustment of rates already existing.

This method of division would, if adopted, sustain the 2 cent rate, but as the company are already bearing a portion of the burden properly chargeable to the freight service and as the portion thus unfairly borne by them would be thereby largely increased, the injustice of such a method of sustaining the rate would be very conspicuous.

This method of division proposed by defendants would if adopted defeat the complainants' case, and it is one of a number of distinct points of defense, any one of which if sustainable, would also defeat the complainants' case. Those points of defense are eight in number and are as follows, viz:

1. That the complainants are estopped from contesting the validity of the statute by the acceptance of land grants.

2. That the value on which complainants are entitled to a return is commercial value and that the same has not been proven.

3. That the common property and expenses must be divided between passenger and freight on the basis of time of occupancy as proposed by defendants.

4. That the sleeping and dining car services must be treated as outside operations and not a part of the service to which the prescribed rate applies.

5. That the complainants must prove every material fact beyond the possibility of a doubt.

6. That the presumption in favor of the statute although disputable in theory is indisputable in fact.

7. That the complainants must prove by affirmative evidence that the loss from decreased rates will not be overcome by increased traffic.

8. That complainants must prove what per cent of return they are entitled to; that they have failed to make such proof, and are therefore not entitled to the relief prayed for.

If anyone of these points of defense is sustainable, the complainants' case must fail. If none of them is sustainable then the final result depends upon the question of fact, whether upon the evidence offered the prescribed rate will yield a fair return on the value of the property employed in the passenger service—the property being valued on the basis of replacement cost, and the common property being divided on the revenue train mile basis, and the dining and sleeping car property being included therein.

Upon this main question thus stated, I am convinced from the evidence beyond a reasonable doubt that a 2 cent rate will not yield such return and that its enforcement should therefore be enjoined.

In reaching this conclusion I am not unmindful of the serious nature of the case and of the remedy invoked. It is true, as has been so strongly urged by defendants, that the power of the judiciary to enjoin action taken under legislative sanction is a very high prerogative and one that should be exercised with great care and circumspection; but it is also true that the higher the prerogative, the more imperative the duty to exercise it wherever that duty is clear.

In this case, unless my findings relative to the eight points of defense above specified are erroneous, that duty, I find, is clear and its performance desirable in the interests of all concerned. This is one of those rare cases in which it is to the best interests of both parties that just and equitable results be reached—to those of the State, no less than to those of the company. While it is the duty of the counsel for the defense to maintain this law, if possible, and to that end to employ all available defenses, technical or otherwise, (which duty has been performed to the utmost in this case) it is not the interest or presumably the desire of the State that this rate be enforced against the complainants, if, in fact, such enforcement would deprive them of the fair return on the value of their property to which they are equitably and constitutionally entitled.

Such enforcement would not only be no benefit to the State, but would, on the contrary, be a distinct and serious injury, both to the State and to the community served by this railroad, in that it would inevitably cripple the company and impair the service rendered by them.

To realize that such impairment of service would thus

be a serious injury, it is only necessary to recall that this is the self-same service which was heretofore deemed so desirable by the State that it made large donations of land and permitted the charging of a five cent fare in order to secure it. And to see that this was wise policy on the part of the State, it is only necessary to consider the geography of the two peninsulas of which the State is composed and the isolation and the condition as regards economic development of the northern peninsula and its need of this railway service. This railway is not only greatly needed by the community which it serves, but is also a very important factor in promoting the commercial and industrial unity of the two peninsulas which ought to accompany their political unity, as it is the only direct railway connection between them.

Before closing this report, a word of explanation of the causes of the long pendency of the suit before the Master may be appropriate.

That length of pendency has resulted from a number of causes, but chiefly from the multitude of questions involved and the great amount of testimony deemed necessary to be taken. The time required for the latter purpose was very considerably increased by the fact that the testimony was originally taken on the same theory as that on which the testimony in the Minnesota Rate Case was taken, and when that theory was disapproved in the decision of that case, it became necessary to retake a great part of the testimony in this case, conformably to that decision—the time limited for the taking of testimony having been extended for that purpose by order of the court.

The taking of testimony began July 8th, 1912, and was completed August 12th, 1914. From the latter date until February 17th, 1915, the time was consumed in making of briefs and of other preparations for oral argu-

ment, which began on the day last mentioned and continued from day to day until March 10th following, when the cause was submitted to the Master. The length of time since consumed has been due primarily and chiefly to the great amount of work involved in the consideration of the multitude of mooted questions, both of fact and law, and of the testimony on which the former depended; and secondarily, to the temporary inability at times of counsel, by reason of illness, to give promptly the assistance required by the Master; and also to the inability of the Master to work at all times continuously because of eye strain resulting from excessive reading of typewritten matter. Although as early a termination of the cause as practicable was desirable, it is believed, nevertheless, that the time thus consumed has been, in the main, well spent, by reason of the more thorough trial of the issues involved and a fuller presentation of the merits of the case thereby attained than would otherwise have been possible.

I return herewith, as part of this, my report, the following papers and documents, viz:

A full report of the proceedings before me in the taking of testimony, consisting of 10,719 pages of typewritten testimony, bound in thirty-five volumes.

In the course of said testimony many papers, documents and maps were produced and offered in evidence and marked as exhibits as follows, viz:

On the part of the complainant 97 exhibits, numbered respectively from 1 to 96, with a duplication which causes 2 separate exhibits to be numbered "90"; on the part of the defendants 83 exhibits, numbered respectively 1 to 83; which exhibits, together with a descriptive list or catalog thereof, are herewith separately filed with the court as a part of said testimony.

In connection with their objections to the tentative re-

port, defendant's counsel requested that the details of my computations involved in reaching the results set forth in the report be made a part of my report, but as the same are voluminous and can be checked and verified by any competent accountant, I do not think it proper to embody them in the report as a part thereof, but will file them along with this report and furnish the parties with copies thereof.

Since the foregoing was written, the details of computations therein referred to have been furnished to defendants and a memorandum specifying what they deem apparent errors and needed corrections therein has been received from them by the Master—such specifications being numbered consecutively from 1 to 12 and being here taken up in their numerical order.

Specification 1. This specification claims that the revenue train mile ratio used by me is erroneous in three particulars designated respectively as a, b and c.

In respect to (a) I find that the defendants are right and have revised my figures accordingly.

In respect to (b) I find that the defendants are right as to the Michigamme Mine Branch consisting of .31 of a mile, but in error as to the other mine branches therein mentioned, as it appears from the evidence that merchandise switching was done in 1913 on the latter branches.

In respect to subdivision (c) I find that the defendants are in error as to the Hunter Branch, and the old Negaunee Mine Branch for the following reasons, viz: The Hunter Branch was in existence and was used by complainants in 1913, and it therefore participated in the stational time therein referred to.

Also with regard to the Old Negaunee Mine Branch (.96 of a mile), for the reason that the same was not included in my computations as it is a part of the Negaunee yard and that entire yard was excluded.



With regard to the Danber Branch, I find that the defendants are right in their claim that the same should be excluded and I have revised my figures accordingly.

Specification 3. This relates to a revenue item, \$6,750.77, received by complainants in 1913 from the Chicago and North Western Ry. under an agreement between them and that company by which complainants received daily from the C. & N. W. Co. at Negaunee, Mich., certain trains of passenger cars belonging to the latter company and operated them on complainant's road between Negaunee and Houghton—the locomotive and entire train crew for such operation having been furnished by complainants. By the terms of this agreement the complainants received all the fares of the passengers carried in such trains between Negaunee and Houghton both through and local and also in addition a train mileage of twelve and one-half cents to be paid them by the C. & N. W. Co. It is this mileage that is represented by the \$6,750.77 in question. The question is as to the proper disposition to be made of it—whether it should be accounted as passenger revenue derived from the passenger business of complainants or as a common revenue derived from the rental of the common property over which these trains are operated. In the accounts put in evidence and in the computations heretofore made, it is treated as a rental received from the use of common property and as such divided between freight and passenger in the same manner as other rentals of common property are divided, but the defendants claim that it is not a rental of property but a passenger train earning and that it should therefore be treated not as a common revenue but as a passenger revenue wholly.

In this contention I think the defendants are right. A rental of property is money paid by a lessee for the privilege of using and occupying property of the lessor,

but in this transaction the C. & N. W. Co. neither uses nor occupies any property of complainants, but on the contrary the complainants use and occupy some of the property of the C. & N. W. Co. (the cars composing the trains) and these trains are regularly operated by the complainants and they differ in no respect from the complainants' other regularly operated passenger trains except that the coaches composing the trains are owned by the C. & N. W. Co. If in addition to owning the cars, the C. & N. W. Co. owned also the locomotives and with their own crews operated the trains, the mileage paid for the operation of such trains might properly be treated as a rental of common property. This is precisely the case in another agreement between these parties under which the C. & N. W. Co. operated its own trains on complainant's road between Ishpeming and Marquette, and pays a trackage or train mileage which is treated as a rental of common property.

The precise nature of this item sufficiently appears from the terms of the agreement and the nature of the transaction and from these it appears that it is a compensation paid to complainants for their co-operation in maintaining a through passenger service without change of cars from all points from Chicago north on the line of the C. & N. W. Co. road to that section of Michigan known as the Copper Country.

It is clear that the item is a purely passenger revenue and should be so treated and I have revised my figures accordingly.

Following the foregoing specifications of error No. 3 the defendants have another specification also numbered 3 (evidently by inadvertence) which relates to gross revenue from sleeping cars.

In this specification the defendants are in error, the sleeping car gross revenue of \$30,243.11 found by me in

my exhibit 5 is determined from the testimony of A. E. Delf in the introduction to complainant's exhibit 67 on sheet 24 and this amount it appears from his testimony is shown by the reports in his office of sleeping car tickets sold. As each ticket shows the point of sale and the point of destination, the revenues from sale of tickets wholly within the state allocate themselves and the revenues from sale of interstate tickets are allocable as the part of the entire journey made in each state is readily determinable. There is therefore no occasion for dividing the total sleeping car revenue between states in the manner specified by defendants or in any other manner.

Specification 4. This specification points out a clerical error which I have now corrected.

Specification 5. In my division of operating expenses for 1912 and separating to Mail and Express, I follow the method of defendant's witness Mr. Thompson but I now find that Mr. Thompson was in error in the respect here pointed out by defendants and have revised my figures for 1912 accordingly.

Specification 6. In my separation of the common property here referred to, I followed the method offered by defendants on page 234 of their printed brief. But I find that the method now suggested by them is more equitable and have revised my figures accordingly, except that I have revised their proposed correction by including overheads which they presumably omitted by inadvertence.

Specification 7. In this specification I find that the defendants are right as to the principle on which the common portions of the accounts there mentioned should be divided, but wrong in their results of the application of that principle; that the proper ratio for 1913 is: Passenger, 35.9 per cent, freight 64.1 per cent instead of

30.08 passenger and 69.92 freight, as shown in Note 10, of my Exhibit 6.

Specification 8. This specification relates to what defendants therein call the "out of pocket costs" on account of the diner service, meaning by "out of pocket costs" as I understand them, that portion of the operating expense for 1913 which would not have been incurred if dining cars had not been operated; and it says that these costs were overlooked by me and claims that they would be at least \$19,715. The defendants are here correct, in stating that the finding of such costs was omitted by me, but they were omitted because they were immaterial and not from inadvertence, and they are correct also in claiming that such costs would amount to more than the amount last mentioned, as I now find them to be in fact the sum of \$25,805. This amount is arrived at by applying the percentage of 39.84 given by defendants as the correct one in their specification next following, numbered 9.

Specification 9. This specification points out that the separation of expenses for 1913, assigned to sleepers and diners, heretofore made by me, was on the basis of tonnages and percentages of 1912, whereas it should have been on those of 1913. This specification is correct and I have changed my figures accordingly.

Specification 10. This specification relates to the division between passenger and freight of the annual taxes paid in Michigan and alleges that the division heretofore made does not mathematically follow the rule for their division laid down by me in the report and claims that the assignment made of the taxes to passenger in 1913 is at least \$1,000 too great. In this the defendants are right in part and wrong in part. The rule of division laid down by me is that which was agreed upon by the parties as stated on page 350 of the report and is as fol-

lows: "that taxes should be apportioned between the services passenger and freight respectively in proportion to the respective valuations."

The defendants are right in their claims that in the application of this rule the part of the property in Michigan which had been assigned to Wisconsin should have been excluded, but was not; and my figures have been corrected accordingly. But they are wrong in their claim that the passenger proportion of taxes heretofore found by me is at least \$1,000 too great. The amount in which it was too great was the sum of \$680.09. The passenger proportion of taxes in 1913 is \$40,203.03 and the manner in which it is arrived at is shown on page 25 of the computations of exhibits 2 and 8 filed herewith.

Specification 11. This specification relates to the division of mail and express proportion of operating expenses between inter- and intrastate for 1910 and 1911, and claims that in such division the percentage of 55.95 intrastate should have been used instead of 65.95.

The ratio of 65.95 used by me was obtained in manner following, viz: a portion of the passenger operating expenses for each of the years 1912 and 1913, was assigned to mail and express; using the Thompson ratios. The amount so assigned to mail and express I apportioned to interstate and intrastate in the same manner as the total passenger operating expenses had been apportioned between inter and intra.

As there was no evidence from which like ratios could be obtained for assigning a portion of the expenses of 1910 and 1911 to mail and express, I assigned the expenses to mail and express and to intrastate and interstate on ratios derived from the totals of the 1912 and 1913 assignments. The defendants' ratio of 55.95 is evidently based upon the number of passenger miles made inter and intra, respectively in 1910.

The question therefore is which of these bases of division should be used; and I find that the basis which gives the 65.95 percentage should be used because that is the same basis on which the entire passenger expenses were divided between inter and intra for the years 1912 and 1913. On recomputation, however, I find that the percentage should be 65.81 instead of 65.95 as shown on page 23 of the computations of my exhibits 2 to 8.

Specification 12. This specification relates to the apportioning to Wisconsin of property in Michigan used in the general service and claims that in addition to the property already so apportioned there should be included certain tracks at Marquette and Thomaston which they designate as "sidings" but which are more properly called shop tracks; and certain frogs and switches. In this I find that the defendants are correct except that the two tracks at Marquette which they call "Old Car Shed East Side" and "Old Car Shed West Side" are exclusively freight tracks instead of a common freight and passenger. My figures have been revised accordingly and the same are found on page 18 of the computation of exhibit 1.

The several exhibits referred to in and made a part of this report, being nine in number and being marked Exhibit A and exhibits numbered from 1 to 8 respectively, are returned herewith and are bound in a separate volume, instead of being attached hereto, for the reason that they are of such shape that it is was impracticable to so attach them, although they are referred to in the body of the report as being so attached.

I am unwilling to close this report without some acknowledgment of the ability and thoroughness with which the work of counsel upon each side has been performed. In a case of this magnitude and complexity it would never be possible to say that everything had been



done that could aid in the correct determination of all the questions involved; but with the single exception of the question of appreciation, as hereinbefore explained, I believe it can safely be said in this case that nothing of importance that would afford such aid has been left undone by counsel upon either side.

I wish especially to acknowledge the efficient assistance which has been given the Master by counsel upon each side whenever called upon by him. This acknowledgment would not be complete if it did not include also the work of the accountants and other experts on each side which also has been no less characterized by ability and thoroughness.

In conformity to the order of the court the Master submits a form of decree which he recommends to be entered in this case, and the same is hereto annexed and made part of this report.

All of which is respectfully submitted.

HERBERT L. BAKER,  
Special Master.

January 29, 1917.

UNITED STATES DISTRICT COURT,  
EASTERN DISTRICT OF MICHIGAN,  
SOUTHERN DIVISION IN EQUITY.

---

DULUTH, SOUTH SHORE & ATLANTIC  
RAILWAY COMPANY,  
Complainant,

vs.

GRANT FELLOWS (SUBSTITUTED IN PLACE  
OF FRANZ C. KUHN), CASSIUS S.  
GLASGOW, LAWTON T. HEMANS,  
CHARLES S. CUNNINGHAM (SUBSTI-  
TUTED IN PLACE OF GEORGE W.  
DICKENSON), MORGAN W. JOPLING,  
JOHN R. VAN EVERA and FRED S.  
CASE,

Defendants.

---

DECREE.

The above entitled cause was submitted to the Master on arguments by Messrs. Arch B. Eldredge, solicitor, and Joseph B. Cotton and John E. Tracy, of counsel, on behalf of complainant, and by Roger I. Wykes, Esq., of counsel, on behalf of defendants.

After deliberation, it is ordered, adjudged and decreed,

Section 1. That the act of the legislature of the State of Michigan, complained of in this suit, being Act No. 276 of the Public Acts of the State of Michigan for the year 1911, is, in its effect upon the property of complainant,

confiscatory and will, if enforced against complainant, operate to deprive the complainant of its property without due process of law, and therefore said act is, so far as it relates to the said complainant, its officers, directors, agents and employees, hereby declared to be in violation of the Constitution of the United States, and void and of no effect as to the complainant.

Section 2. That said Grant Fellows, Attorney-General of the State of Michigan, and his successors in office, and Cassius S. Glasgow, Lawton T. Hemans and Charles S. Cunningham, and their respective successors in office, constituting the Railroad Commission of said State, be and they are, and each of them is, hereby permanently enjoined and restrained from attempting to compel the said complainant to observe, publish, post or put in force the rates of fare prescribed by the said act complained of, except as they may be hereafter otherwise authorized by this court, and that they are, and each of them is, further permanently restrained and enjoined from taking any action, step or proceeding against said complainant or any of its officers, directors, agents or employees, to enforce any fines, penalties, or punishments for the violation by them of the said act of the Legislature of Michigan, except as they may hereafter be otherwise authorized by this court.

Section 3. That said defendants, Morgan W. Jopling, John R. Van Evera and Fred S. Case, and all other persons making use of complainant's line of railway, be and they are, and each of them is, hereby permanently enjoined and restrained from instituting or causing to be instituted any action or proceeding to collect from complainant damages or penalties for any violation of the said act.

Section 4. That the subject of the costs of this suit be reserved for future consideration by the court.

Section 5. It is further ordered that the order of this court, dated the 26th day of September, 1911, requiring the complainant, during the pendency of this suit, to issue to all persons traveling intrastate on its road, refund coupons agreeing to refund to the holder of the same an amount equal to the difference between the rate of fare charged such passenger for transportation and the rate prescribed in the act complained of, is hereby set aside and annulled and said coupons are adjudged to be of no validity or value, and the bond provided to be given by said complainant for the redemption of said coupons is hereby discharged and the order heretofore entered on the 22nd day of October, 1915, directing the complainant to set aside a special bank deposit for the redemption of said coupons is also set aside and annulled.

Section 6. It is further ordered and decreed that jurisdiction of this case be, and the same hereby is, retained by this court, for the purpose that the members of the Railroad Commission and the Attorney-General of the State may apply, at any time, to the court, by bill or otherwise, as they may be advised, for a further order or decree whenever it shall appear that by reason of a change in circumstances, the rates fixed by the act complained of are sufficient to yield to the complainant reasonable compensation for the services rendered.

---

#### **OBJECTIONS TO THE FOREGOING FINDINGS AND RULINGS BY THE MASTER THEREON.**

The foregoing findings were on 20th day of May, 1916, served on counsel for the respective parties and opportunity was thereupon given them to make such objections thereto as they might desire.

Afterwards objections were received from the re-

spective counsel and were carefully considered by the Master.

The said objections and the rulings of the Master thereon are as follows:

*Complainant's Objections.—Valuations.*

The complainant objects to your valuation of Schedules 1, 3, 5, 7, 16, 19, 23, 28, 29, 30, 36, 37 and 40, and to your reduction of the amount claimed by complainant for appreciations, and will desire to make specific objections to them in accordance with the usual practice when your report is presented to the Court for confirmation. It is, however, very apparent from your report that the testimony has been carefully studied and your judgment appears to be deliberate, and therefore, in view of the very thorough argument there has been upon these schedules, complainant will not ask for further consideration of them at the present time, except as hereinafter indicated.

With reference to Schedule 19, complainant renews its objection to the assingment to Wisconsin of any portion of the value of shops, engine houses and turntables located in Michigan. It renews its contention that the location of that property in Michigan is conclusive, and that its entire value, as a matter of law, is assignable to the property upon which complainant is entitled to earn a return in this case.

The same objection applies, also, to Schedule 20 (shop machinery and tools), to which we make no other objection.

*Taxes during Construction.*

We desire to call your attention particularly to your allowance for taxes during construction. The average of the taxes paid by the complainant for the years 1912 and

1913 are \$200,907. This is practically 1.429% on the total valuation of complainant's property which you have found, to-wit, \$13,979,928. The total of the physical property items (Schedules 3-28, inclusive) in your valuation, exclusive of lands and rolling stock, is \$7,808,280, on which one year's taxes at the rate above named would be more than \$111,000; so that your total allowance of \$100,000 for taxes during construction is less than one year's taxes on the above named schedules.

You have found the period required for construction to be not less than three years. I think we may safely assume that on that basis the first year of construction would be one of small taxes, the second of medium taxes, and the third of taxes upon practically all the property. On the basis of an average of one and a half years of taxation, which the evidence with reference to interest during construction would clearly justify, the allowance for taxes should be at least \$165,000.

If we assume, however, that taxes should be computed for the same time that you have used in computing interest during construction on the schedules above mentioned, the allowance would be \$128,344.

It is perfectly apparent from Mr. Hansel's testimony with reference to his allowance of \$50,000 for taxes on property other than lands, that he went upon the theory that before the property began to be operated, there could be some arrangement made with the taxing authorities by which the complainant could be relieved from paying its lawful taxes. This assumption is certainly not one which can be made by a court; on the contrary, the assumption must be that lawful taxes will be assessed. Mr. Hansel's testimony above referred to will be found at Record pages 4515-6.

We therefore respectfully ask that the item of taxes during construction should be increased, and we urge



that the evidence fully justifies an allowance of \$150,000, and does not justify an allowance of less than \$128,000.

*Estimated Return to be Expected on Complainant's  
Passenger Property Under the Two-Cent Rate.*

Under this heading we desire to renew our claim that the typical year adopted to determine probable future results cannot properly be obtained by using a four years' average of the results of actual operations without taking into consideration the undisputed proof in this case of the increase in wages and prices of material since 1910.

You have, however, found as facts (Report 227-8) "that since 1910 there has been a substantial increase in the rate of wages paid by complainants in almost all classes of labor employed by them; that a large proportion of this increase came from a raise in wages for trainmen, and that this increase is probably permanent"; and that "since 1910 there has been a steady increase in the price of railway supplies generally, and particularly in the prices of ties."

You also say (at p. 227) of the facts thus found: "The facts there alleged are, if true, proper to be given consideration in connection with the general question as to what is to be expected in the future in view of past experience, not only in general, but also and especially in view of the particular experience of the typical year."

In your letter of May 20th you say of the report handed to counsel: "These two parts are intended to cover everything except the question as to what is required to constitute a sufficient rate of return", which question you reserve for consideration until after the objections asked for in that letter have been considered.

We take it, therefore, that due and proper considera-

tion will be given to the question of increase in wages and in prices of material in that article, and that it is unnecessary at the present time to do more than call your attention to our claims.

In this same connection we again raise the question of depreciation not charged as an expense item in the years 1910, 1911, 1912 and 1913. On page 226 of your report you refuse to consider this depreciation in forming your typical year because you say "that complainant has not furnished testimony from which I am able to determine with sufficient definiteness a proper amount for such item."

We believe that in this statement you are in error, and we call your attention to the testimony of Mr. Riggs (Rec. p. 262) in which he sets forth a table of depreciation which he used for bridges, trestles and culverts. His testimony with regard to the propriety of the use of this table is, so far as we know, undisputed in the case, and from it every item of depreciation claimed by us can be calculated, and the manuscript brief of Eldredge and Tracy gives these computations on page 46.

#### *\$12,000 Paid President Fitch on His Retirement.*

We desire to object to the action of the Master with reference to this item. The undisputed evidence (Rec. 7752) shows that this allowance was an adjustment of salary. You treat it as though it were a gratuity.

It appears that Mr. Fitch was president and general manager for many years. Even if the amount paid him was a gratuity, it was a legitimate item of expense resting in the discretion of the Board of Directors to make, and not subject to review by a court, except upon the ground that any allowance was unjustified. It appears from the evidence in the case that the complainant has no pension system, and certainly the officers of the com-

pany have a right to take this into consideration in dealing with old employes who leave their service.

We quite agree with your conclusion that, treated as an expenditure applicable only to the year in which it was paid, the payment might make the expenses of that year abnormal, but only because payment was to an officer whose salary was presumably among the largest paid by the complainant. If spread over a period of four years, as the average method adopted by you would spread it, we believe it is a proper expense item which should be allowed. We can see no basis for your conclusion that if allowed, it would have to be spread over the entire period of his employment.

*Adjustments Made in the Accounts of 1913.*

(Report, pages 229-231½, inclusive.)

Assuming that you are correct in your conclusion that the expenses of the year 1913 do not represent the expenses of a normal year, complainant thinks your deductions are too great. The theory upon which these deductions are made you clearly state, viz: that there were expenditures in the year 1913 made to take care of the deferred maintenance of previous years. Assuming this to be true, when you deduct all of the expenses of 1913 for superintendence, ballast, roadway and track, and bridges, trestles and culverts, beyond the average of the three preceding years, the effect must necessarily be to leave the expense accounts of the year 1913 in the same condition as the three previous years,—that is, with too small an amount charged for maintenance. It would seem to us that even upon the theory on which these deductions are made from the expense account of 1913, they should have been only three-fourths as much.

*Division of Michigan Passenger Operating Expenses  
Between Intrastate and Interstate.*

(Page 277.)

Under this heading we desire to call attention to the method adopted by you for the division of the accounts, Station Employees, and Station Supplies and Expenses. It seems to us that a division on the relation of the tickets sold at stations would be more logical than the one adopted by you, viz: the relation of the number of passengers traveling inter- and intrastate, respectively, for the reason that the sale of tickets represents, as accurately as is possible, the actual relation of the passengers with station employees, and station supplies and expenses. It excludes from consideration passengers who pay on trains, and passengers from foreign lines who travel on through tickets, which two classes of passengers have little or no dealings with the stations or their employees. If the Master should conclude that the division should be made on the basis here suggested, the data therefor can be found in complainant's Exhibit 85.

---

*Defendants' Objections.*

*Objection No. 1:*

The right is reserved to present to the Court an exception that such report is erroneous in determining and finding, as a matter of law, that the complainant is not estopped, by the acceptance of land grant lands by itself or its predecessors in ownership, from questioning the validity of the Michigan passenger rate statute, fixing rates of fare to be charged upon complainant's railroad of two cents per mile for the carriage of passengers.

*Objection No. 2:*

Such report is erroneous in its conclusion and finding, as a matter of law, upon the question of the degree or positiveness of proof required, of those contesting a statutory rate of fare, to establish the invalidity of such rate, and in not finding that it is essential that every material question and conclusion, upon which the invalidity of a statutory rate is predicated, be established beyond controversy and beyond the possibility of a reasonable doubt, as well as in numerous instances throughout the report failing to apply the rule that every question throughout the controversy of sufficient materiality and importance, taken separately or cumulatively, as to affect the result, must be resolved in favor of the validity of the rate-fixing statute.

---

The applicable principle has been enunciated in many cases. It is, that every presumption is to be resolved in favor of the validity of legislative enactments; and rate-fixing statutes form no exception. The effect of this salutary rule has never been permitted to be frittered away by nice distinctions or refinements of reasoning, as is here attempted.

No discretion is vested in the courts in determining whether the Legislature, as a co-ordinate branch of the Government, has exceeded its authority. When positive proof of the exercise of excess authority is produced, then, and then only, can the courts perform their duty of declaring statutes to be unconstitutional. Before that duty arises, or will be performed, it must appear beyond possibility of reasonable doubt that the statute is unconstitutional, and, in order that it may so appear, it must also appear that *every link in the chain of evidence* to show such invalidity is established beyond doubt.

Such invalidity is not permitted to rest upon equivocation or opinion, and where there is doubt on any question or element, that doubt must be resolved to sustain the legislative action. We feel that in a number of instances throughout the case the doubt has not been resolved by the Master in favor of the validity of the statute, but has been resolved in favor of the complainant. A few of the particulars which may be pointed out are the following:

In allowances for the items "Contingencies," "Taxes," "Appreciation," "Working Capital" and "Stores and Supplies."

In refusing to depreciate ballast and track laying and surfacing.

In acceptance of complainant's alterations of defendants' modified revenue train-mile ratio for division of common property and common expenses.

In the determination that decreased rates will not, and did not subsequent to 1907, produce increased traffic.

The character, extent or effect of the presumption of validity does not depend upon proof or inference of the legislative knowledge, or its means of knowledge, or the extent of its investigation; it is a positive presumption that the law is valid unless all conditions which would render it invalid appear absolutely.

In *Chesapeake & Potomac Tel. Co. vs. Manning* (185 U. S. 245), it was said:

"But it is well settled that the courts always presume that the legislature acts advisedly and with full knowledge of the situation. Such knowledge can be acquired in other ways than by the formal investigation of a committee, and courts cannot inquire how the legislature obtained its knowledge. They must accept its action as that of a body having full



power to act, and only acting when it has acquired sufficient information to justify its action."

In *Calder vs. Michigan* (218 U. S. 598), it was said:

"\* \* \* we do not inquire into the knowledge, negligence, methods or motives of the legislature  
\* \* \*"

In *United States vs. Des Moines Navigation & Railway* (142 U. S. 544-45), it was said:

"The knowledge and good faith of a legislature are not open to question. It is conclusively presumed that a Legislature acts with full knowledge, and in good faith. It is true the bill alleges that its passage was induced by the navigation company, by false representations and threats of suits; but such an allegation amounts to nothing. In Cooley's Constitutional Limitations (5th ed. 222), the author, citing several cases, observes: 'From what examination has been given to this subject, it appears that whether a statute is constitutional or not is always a question of power; that is, a question whether the legislature in the particular case, in respect to the subject matter of the act, the manner in which its object is to be accomplished and the mode of enacting it, has kept within the constitutional limits and observed the constitutional conditions. In any case in which this question is answered in the affirmative, the courts are not at liberty to inquire into the proper exercise of the power. They must assume that legislative discretion has been properly exercised. If evidence was required, it must be supposed that it was before the legislature when the act was passed; and if any special finding was required to warrant the passage of the special act, it would seem that the passage of the act itself might be held to be

equivalent to such finding. And, although it has sometimes been urged at the bar that the courts ought to inquire into the motives of the legislature where fraud and corruption were alleged, and annul their action if the allegations were established, the argument has in no case been acceded to by the judiciary, and they have never allowed the inquiry to be entered upon."

In *San Diego Land & Town Co. vs. National City* (174 U. S. 754), it was said:

"But it should also be remembered that the judiciary ought not to interfere with the collection of rates established under legislative sanction, unless they are so plainly and palpably unreasonable as to make their enforcement equivalent to the taking of property for public use without such compensation as under all the circumstances is just, both to the owner and to the public; that is, judicial interference should never occur unless the case presents, clearly and beyond all doubt, such a flagrant attack upon the rights of property under the guise of regulations, as to compel the Court to say that the rates prescribed will necessarily have the effect to deny just compensation for private property taken for the public use."

*Louisville vs. Cumberland Tel. & Tel. Co.*, 225 U. S. 430-36.

*Knoxville Water Co. vs. Knoxville*, 212 U. S. 16-17.

*Willecox vs. Consolidated Gas Co.*, 212 U. S. 19, 41, 54.

*Louisiana Ry. Com. vs. Tel. & Tel. Co.*, 212 U. S. 414, 423, 425-28.

*Chicago, Milwaukee & St. Paul vs. Tompkins*, 176 U. S. 167.

- Cotting vs. Kansas City Stock Yards, 183 U. S. 79.  
 Capital City Gas Co. vs. Des Moines, 72 Fed. 829.  
 Ruggles vs. Illinois, 108 U. S. 526.  
 Atlantic & Pacific vs. United States, 76 Fed. 186.  
 Ex Parte Koehler, 23 Fed. 529.  
 Matthews vs. Board of Com. of North Carolina,  
 106 Fed. 7.  
 Spring Valley Waterworks vs. San Francisco, 124  
 Fed. 574.  
 Minneapolis & St. Louis vs. Minnesota, 186 U. S.  
 257.  
 In re Arkansas Rate Cases, 187 Fed. 317, 353.  
 St. Louis & San Francisco vs. Hadley, 168 Fed.  
 317, 353.  
 San Diego Land & Town Co. vs. National City,  
 174 U. S. 739.  
 Southern Pacific vs. Campbell, 189 Fed. 182, 184.  
 Louisville & Nashville vs. Railroad Commission,  
 208 Fed. 42.  
 Minneapolis Gas Light Co. vs. Minneapolis, 123  
 Minn. 231; 143 N. W. 728, 732.  
 Commonwealth vs. Boston St. Ry., 212 Mass. 82,  
 85-86.  
 Central of Georgia vs. McLendon, 157 Fed. 975.  
 Spring Valley Waterworks vs. San Francisco, 192  
 Fed. 144.  
 Montana, Wyoming & Southern vs. Morley, 198  
 Fed. 999.

The argument by which the Master seeks to predicate his ruling on this point, upon things inferentially determined or not determined by the Legislature, is contrary to the above cases, as, in fixing the two-cent rate, the Legislature of necessity conclusively passed upon and determined every question essential to be considered. While its determination is not final, it is accompanied with

every presumption of validity, until an affirmative showing which excludes every possibility of doubt indicates it to be otherwise.

In order to sustain the legislation, the courts will even go so far as to speculate upon the existence of things which will operate to sustain its validity, and, where there is a possibility of certain conditions existing which will make a statute valid, they will assume those conditions to exist, and that the Legislature predicated its action thereon.

Missouri, Kansas and Texas vs. May, 194, U. S. 269.

In the inception of rate legislation, and for a number of years, the Federal Supreme Court regarded the legislative determination of the sufficiency of a rate to be final. This rule was reluctantly abandoned so as to permit of review by the courts where there was no return. Subsequently the courts assumed authority to determine whether the return was adequate, but, throughout the history of rate legislation, the Supreme Court has adhered to the principle that no rate should be set aside until clearly proven insufficient, and that all doubts must be resolved in favor of validity.

---

*Objection No. 3:*

Such report is erroneous in its findings and conclusion, as a matter of law, that the cost-of-reproduction value less depreciation, or the "replacement-cost value," is to be taken as the absolute measure of the value which must be sustained by the rates permitted to be charged.

---

Not only the leading case of *Smyth vs. Ames* (169 U. S. 546-47), but practically every rate case, to the present, recognizes that no single element or rule of valuation is

to be applied in determining the value of the property which must be supported by rates, and that all that the company is entitled to ask is a fair return on that which it employs for the public convenience. Value is not determined by replacement cost, though that may be a consideration in determining what is fair to the public and the utility, in the light of the rule that the interests of both must be considered.

*Objection No. 4:*

Such report is erroneous in its findings and conclusion, as a matter of law, that the cost-of-reproduction value upon which the complainant is entitled to a return can exceed, or does exceed the commercial value of the property, or the value or price at which the public could acquire full title to such property under the exercise of the right of eminent domain.

The utility is entitled to a return upon the value of that which it employs for the public. That value cannot be influenced down by the regulated rates being tested, nor up by the previous rates charged by the utility. Where, however, commercial value is indicated under rates which the utility has accepted, it cannot by reason of a high replacement cost claim a return, when testing the sufficiency of particular rates, upon an amount greater than the commercial value under rates *accepted* by it. The commercial value under the rates which the company *accepted* was admitted, and claimed by the complainant in its reports for taxation, to be not greater than \$11,144,946 in 1913, and no so-called replacement cost, built up on the assumption of reproduction, can entitle complainant to a return from its passenger business on more than a proper proportion of its admitted commercial value.

As has been before pointed out, the property might be acquired for public use, by proceedings *in invitum*, at

its commercial value, and, if complainant is secured a return upon the passenger proportion of that value by the two-cent rate, it has no legal cause for complaint.

---

*Objection No. 5:*

Such report is erroneous in its conclusions and findings of law and fact, in that the value of the complainant's property in Michigan, as adopted by the Master, is excessive and is greater than its actual value, and is greater than the value thereof that the complainant is entitled to have supported by the statutory rates of charge. Such excessive and erroneous value is due to the following considerations:

(a) In arriving at, and in fixing, such values for real estate and right of way, the Master has included improper values, and improper elements of value, as follows, to-wit:

(1) The strategic or special value attributed to certain lands on account of their claimed adaptation for railroad purposes.

(2) The riparian or other water rights which are claimed to be appurtenant to the lands of the complainant at St. Ignace, Marquette and Houghton, so far as such riparian and water rights are not in actual railroad use.

(3) The trackage rights existing in streets in the cities of Marquette and Ishpeming.

(4) Mineral and ore values in and under the right of way, and speculative values due to the possibility of discovery of minerals under the right of way.

(5) Land values, generally, which are excessive and contrary to the weight of evidence.

(6) The reliance upon testimony of witnesses



placing high values, and refusal to take the testimony of witnesses entitled to credit and, equally well qualified to fix values, whose values were well considered, and who fixed lower values, and the refusal to apply proven tests of the correctness or incorrectness of opinion evidence of value, which tests show the values taken and used by the Master to be too high.

(7) The refusal to take into account, or be influenced by, values as fixed by actual purchase and sale of similar nearby and adjacent lands.

(8) The addition of values for clearing and grubbing, which brings the values of the complainant's lands above the values of similar cleared lands nearby and adjacent.

(b) In arriving at and fixing such values for real estate and right of way, the Master has proceeded upon erroneous and improper methods of valuation, in that:

(1) Lands in considerable or large tracts are considered and valued upon the basis of adjacent or nearby lands subdivided into small lots, and upon the basis of an immediate sale of the whole of such lands at the values or prices which were paid for a small number of lots out of a large number in the vicinity.

(2) The assumption is given effect, that there would be an immediate demand, at high prices, for all of the South Shore lands now occupied by the railroad.

(3) The detrimental effect of the railroad, as giving a lower value to lands in its immediate vicinity for other than railroad purposes, was not taken into account, in that the railroad lands were considered of the same value as, and compared with, residence and high-class business property located in the better parts of municipalities where those lands lay.

(4) Principal and important streets in municipalities were assumed to be projected through and on to the land of the complainant, and the further assumption was placed that there would be an immediate demand for all the railroad lands thus assumed to be on such streets, for the same uses as the occupied lands now on such streets or in the vicinity.

(5) Values which are based upon purchases for railway purposes are accepted, resulting in the inclusion of the values and elements of value for railway purposes forbidden under the *Minnesota Rate Cases*.

(c) In valuing the property of the complainant, the Master placed thereon high and excessive values, in this, that:

(1) He found the total value of the lands of the complainant in Michigan to be \$1,780,239, whereas the true value, and the value proper for use in a rate case, was, and is, much less, excessive values being placed upon the lands in each of the counties of Chippewa, Mackinaw, Schoolcraft, Marquette, Baraga, Houghton, Ontonagon and Gogebic.

(2) He valued the trackage rights in streets (erroneously included) at much in excess of the cost to produce, or to reproduce, and in excess of any value therein belonging to the complainant.

(3) He assumed that to reproduce the earth grading upon the complainant's line and right of way would cost thirty cents per cubic yard, whereas the true cost to reproduce, and the real production value, is much less, and does not exceed an average of twenty-five cents per yard.

The price adopted for grading is higher than prices paid by the South Shore on its line in recent years, and

higher than that shown by the majority of bids on 25 miles to be constructed for the Chicago, Milwaukee and St. Paul in the vicinity.

---

(4) He finds a unit price for ties of forty cents each, notwithstanding the records and reports of the complainant to public boards in Michigan show tie prices to be considerably less, and notwithstanding the actual purchase price and value of ties is less than forty cents each.

---

Riggs first used a tie price of 34.77 cents per tie. When Hansel erroneously used forty cents per tie, Riggs increased his estimate to forty cents. That price involved a duplication of the cost of transportation, inspection and loading, as the average of tie prices reported to the State for five years (1909-1913), and used by Riggs as his base price, included those items and was 31.39 cents.

Riggs' price, as figured by himself, after adding for, and thus duplicating charges for, transportation, inspection and loading, was less than forty cents; this he increased to forty cents on the assumption that, assuming reproduction, the demand for ties in the community would so increase as to raise the price to forty cents.

His use of a simple average was also improper, as giving undue weight to the lesser number of high-priced ties purchased.

---

(5) He incorrectly applies the unit prices and depreciation percentages which he adopts for rail to the rail existing in complainant's line, with the result that he erroneously fixes a value for this item

of \$1,193,882., instead of \$1,170,995., which is the result of correct application of the prices for rail and of the method of determining depreciation which he adopts.

(6) Notwithstanding that the weight of the evidence shows that ballast depreciates and that it must be renewed and replaced from time to time, to keep it in 100 per cent condition, he refuses to allow for the depreciation of that item, and finds and determines that there is no depreciation in it.

---

All the witnesses who testified upon the subject of depreciation of ballast—seven in number—admitted or testified that ballast does in fact depreciate and must be renewed (Defendants' printed Brief, p. 44). That ballast deteriorates cannot be gainsaid; that this deterioration is depreciation in value is the self-evident result of the fact that expenditures must be made to restore the condition to 100 per cent.

No argument can change the admitted fact that when ballast is newly placed it is in 100 per cent condition, and that thereafter it deteriorates as ballast, and the time comes when expenditures must be made to restore it to 100 per cent condition. Whether the falling off of value or serviceability is called depreciation or not, a deduction from value, to represent present condition, must be made, or the appraisal does not accord with the facts.

---

(7) He adopts as the price and value, or cost of reproduction, of the item "Tracklaying and Surfacing," \$600 per mile, whereas the real value, or cost of reproduction, of that item is not shown to be in excess of \$526 per mile on complainant's railroad.

(8) He does not depreciate the item "Track Laying and Surfacing," although the same does depreciate and exists in the complainant's railroad in a depreciated condition, and although the track structure, made up of ties, rails, frog switches and crossings, track fastenings, and track laying and surfacing, as a whole does depreciate, and the track laying and surfacing does depreciate in like proportion as do the other items of the track structure.

---

"Track Laying and Surfacing" is not a separate article or item of property. It is the labor portion of the track structure, above the grade. This track structure is made up of ballast, rails, track fastenings, frog switches and crossings, ties, and track laying and surfacing, united, in the same way a bridge is made up of the timber, ties, iron and steel, and labor which unites in forming the bridge.

The mere fact that the item "Track Laying and Surfacing" is separated in inventory, for the purpose of applying a unit price, does not so separate it from the track structure of which it forms a part as to relieve it from the depreciation which occurs in the track structure.

To the same extent that any item of property depreciates, so the labor which created it depreciates, and the rule here sought to be applied, by separating the labor from the material, is an exception to all human experience. Track laying and surfacing exists only as a part of the structure created, and as the structure created disappears or depreciates, so must the track laying and surfacing, which is only found in the assembly of items of the track structure, depreciate or disappear with the property in which it is found. It is, and must be, admit-

ted that the making good of depreciation in ballast, rails, ties, etc., requires also a renewal of the labor entering into the original laying and surfacing of the line.

The warning which the Master urges upon counsel, in the third paragraph on page 163 of his report, regarding "Contingencies," may well be taken into account when considering this account, as it is evident that depreciation on this item is denied solely because of its being treated, for purposes of convenience, as a separate item of appraisal.

---

(9) In the item "Sidetracks" he neglects to deduct the turnouts which are already included, in whole or in part, in the valuation of the through main track, thus causing a duplication of property included in the appraisal, which said item of turnouts the witness, Riggs, for complainant, testified should be deducted, in the number of 1,630, at \$18 per turnout in 60 per cent condition.

(10) In reference to the item "Engineering on Roadway and Structures," the Master states that he deducts \$20,000 as fixed by Hansel for cost of acquiring land, whereas his computation, as finally completed, still carries the Hansel total of \$255,000.

(11) In arriving at the value of the item "Locomotives," and the proportion thereof to be attributed to the passenger business in Michigan, the Master erroneously divides the portion thereof attributed to the non-revenue mileage between passenger and freight on the basis of 46.98 per cent passenger, whereas such non-revenue locomotive mileage is made in serving the property and should be divided upon the basis in which the property is allocated and assigned to the different services, or on the ratio



of the "Maintenance of Way and Structures" expenses in the different services, namely, not greater than 30.7 per cent to passenger.

Locomotive No. 43 is included in the valuation, although not in use since 1911, when it made but 135 miles in freight service, and the entire value thereof is attributed to the passenger business, whereas, due to the fact that its last operations were in the freight service, it should be entirely attributed to the freight service.

(12) In the item "Passenger-train Cars," the Master erroneously attributes to the Michigan Passenger business too large a proportion of the value, by using a basis of apportionment which assumes a certain train consist and apportions the value of the cars in such train upon the basis of their mileage in each state, which method of apportionment assigns to Michigan all reserve cars, and does not assign to Wisconsin cars which are extra to the assumed train consists, or which are used in special or excursion trains, or substitute cars which are used in case of failure of any car regularly in service in Wisconsin. Such apportionment is erroneous, in not dividing such passenger-train cars (excluding official cars, sleepers and diners) on the basis of car-mileage of D., S. S. & A. passenger-train cars in the respective states. Of the value of the sleepers and diners, an insufficient proportion was assigned to Wisconsin and too great a proportion to Michigan.

(13) Said value is improperly increased and enlarged by the allowance of a constructive percentage of two per cent as "Engineering on Equipment."

The larger part of the present equipment was added during operation. There is no shown cost or expense for engineering thereon. If there was any such cost, it has been charged in operating expenses, and, under *Louisiana Railroad Commission vs. Cumberland Telephone Co.* (212 U. S. 423-25), it cannot be included in the value to be supported by rates.

---

(14) He adds, on account of the item "Contingencies," the sum of \$400,000, without sufficient proof that contingencies in that amount, or in any amount, exist in the value of the property or would inevitably occur in a reconstruction, or were incurred and paid for in the construction of the property.

---

Contingencies may occur which will vary the estimated cost, up or down. Whether the variation will be up or down is uncertain and depends on the accuracy of the estimate. In the present case there is no room for uncertainty which requires additions of estimated amounts to cover a cost which may or may not occur. Rate-fixing statutes are not declared invalid upon probabilities of value, but upon proven existing values only. In the very nature of the item, which is at best but a probability of value, is found the reason for its exclusion from value in testing the validity of a rate-fixing statute, where it is predicated upon a complete and careful inventory. The language of the Court in the *Ann Arbor Rate Case* upon this item is, in general, equally applicable in this case. That language follows:

" \* \* \* But the evidence in the present case furnishes no warrant or justification for an allowance for contingencies. Contingencies are said to be

of two kinds: those of inventory and those of construction. In these days of highly systematized work there is little chance of omissions in inventory and, while in theory this railroad is to be reconstructed, in fact it is already built and in operation and there can be no unknown contingencies of construction. Moreover, costs of construction which make up plaintiff's valuations have been fixed at top prices charged by contractors and builders who assume all the risks of contingent losses. Ties are valued from ten to twenty-five per cent higher than the actual cost to this company. The cost of grading and track laying is figured upon the basis of contract prices from ten to thirty per cent greater than those prevailing even in these days of high prices. In fact, each item or class of property has been valued sufficiently high to include a safe and sufficient margin for contingencies and no sound reason exists for the allowance of an additional lump sum to cover improbable losses."

---

(15) He allowed and included in the value of complainant's property, on account of the item "Legal Expenses during Construction," the sum of \$51,400, whereas the weight of evidence indicates that the allowance therefor should not exceed \$25,000.

---

It seems apparent that less would be spent for legal expenses during the period of construction than during a similar period of operation. Riggs so testified. Computed upon that basis, the allowance for legal expenses would be less than \$25,000.

(16) The amount allowed by the Master as "Interest during Construction" is more than any proportion of the value of complainant's road attributable thereto, is greater than any amount shown to have been expended on account thereof by complainant out of capital, and is greater than any amount which would be expended in case of reproduction.

Interest during construction is computed upon items shown in Exhibit 1 (p. 2) to be included in the inventory at actual cost.

(17) The allowance by the Master of \$100,000, on account of the item "Taxes during Construction," is improper, as there is no proof that taxes would be paid, or of the amount that would be paid, in case of reconstruction, or what was actually paid during construction, because, during the period of construction of complainant's railroad, taxes were imposed upon gross earnings of railroads, while the property was exempted.

---

Complainant claimed nothing for taxes during construction. The only witness testifying with regard thereto was Hansel, who allowed \$50,000 on property other than real estate.

The allowance of any amount is purely speculative, as there is no shown practice to tax uncompleted railroads in Michigan, nor showing of what would be the basis of the assessment.

---

(18) Allowances and additions by the Master, on account of the items "Working Capital" and "Stores and Supplies," are excessive, in that the amount allowed for stores and supplies is amply sufficient for both of such items.

(19) The amounts allowed for depreciation upon various of the elements or items of the property are insufficient.

(20) The amount of \$300,000 added to the appraisal on account of "Appreciation" is not sustained by the evidence. The existence of any appreciation in the roadbed of the complainant which would increase its condition above 100 per cent of the roadbed, as inventoried and included in the appraisal, is not proven, and there is no proof from which it is possible to draw a conclusion or to make a finding to the effect that appreciation to the extent of \$300,000, or any other amount, exists in the complainant's railroad.

A value for appreciation, if properly allowable and to be added, is improperly proportioned between services, as, if it exists, it would attach to the property in the proportions in which the roadbed under all tracks is assigned to the respective services.

There was, and would be, no cost to the complainant for this item, other than the amount which was, and would be, included in, and paid for out of, operating expenses.

---

Nothing was included in any inventory for appreciation. No notice or intimation was given of a purpose to claim or add for it, until the argument. The only sustaining testimony is that given to justify carrying grading undepreciated, at 100 per cent. The sole testimony upon which even a speculation as to its value might be made (occurring on Record pp. 249-50), was adduced for distinctly another purpose. Of almost identical testimony, given by the same and other witnesses in the *Ann Arbor Rate Case* with the declared purpose of making an addition for appreciation, the Court said:

"Counsel for plaintiff also insist and the evidence indicates that the roadbed of a railroad appreciates in value, at least during the first few years after construction. The grade becomes more compact and solid with age and use and the slopes of the grade and the ditches become covered with vegetation which tends to prevent erosion. However, no allowance is made for such appreciation in any of plaintiff's schedules or computations and there is no evidence from which the value of such appreciation can be determined with any degree of certainty. It is true that one witness testified that a larger number of section men are required to keep in condition a new railroad than an old one. This may be owing to the fact that a new railroad is seldom in a normally perfect condition of completion at the beginning of its operation. At any rate, this testimony does not furnish a sound basis for the allowance of additional values."

The argument we presented on this question (Defendants' typewritten Brief, pp. 136-46) was conclusive against its allowance. The testimony of greater cost during the first few years, upon which the Master bases his finding of its value, is not upon, but beside, the question, as the requirement of extra section men was expressly stated to be:

" . . . to take care of the work of cleaning out of cuts and of replacing earth around embankments that had sunk down or been washed away."

The extra work, and the charge therefor, was, under this statement, to keep the grade in 100 per cent condition. To cover these expenditures, Riggs had added 17.5 per cent to grading.



*Objection No. 6:*

Such report is erroneous, in that it finds the value of the property of the complainant attributed to, and which is required to be supported by, the Michigan passenger business, to exist in too great an amount and value, due to the fact that he makes no deduction therefrom for property created or paid for out of operating expenses; that the amounts of property created out of operating expenses are indicated by the testimony to be large, and that it was incumbent upon the complainant to show the amounts thereof, in order that they might be deducted from the value to be sustained by rates, and, in the absence of such proof, no finding of a value of complainant's property which should be supported by rates was, or is, possible.

*Objection No. 7:*

Said report is erroneous in finding and setting off to exclusive freight trackage, as the expenses attributable thereto, an insufficient amount, in that:

(a) \* Nothing is set off to the exclusive freight main line trackage of 13.06 miles.

(b) It is assumed that the cost of maintenance of exclusive freight trackage is but one-third of the cost of maintenance of main line trackage, per mile of track, whereas the weight of the evidence shows that the cost of maintaining exclusive freight trackage, in proportion to the cost of maintaining main line trackage, is greater than one-third, and that the exclusive freight trackage maintenance expense should have been set off on the basis of its maintenance cost being two-fifths to one-half as much per track mile as the cost to maintain a mile of main line track.

(c) In setting off the expenses attributable to exclusive trackage, only those maintenance expenses classified under the general account "Maintenance of Way and Structures" were divided so that the exclusive trackage would bear, and be charged with, a proportion thereof, whereas a proportion of the expenses under the other general accounts should have been set off in the method used and applied by the defendants.

(d) No account was taken of the undisputed testimony, that freight spurs and sidings are entirely changed in position and must be removed and rebuilt at least once in each fifteen years.

---

The equation of three to one, as applied to the cost of maintenance of exclusive freight trackage, does not set off the proper amount for exclusive main line trackage, for which there should be no equation. Of such mileage there are 8.83 miles of the south track, Eagle Mills to Winthrop Junction, 2 miles of the Republic Branch, and 2.23 miles of the Bessemer Branch, or a total of 13.06 miles. The expense of maintenance of this should be set off to the exclusive freight spurs at the amount found for main line mileage by complainant, of \$1,151.14 per mile, or an aggregate of \$15,033.89. Neither complainant nor the Master has made allocation to freight on this account.

The equation of three to one, in setting off the exclusive freight tracks other than ore and industrial spurs, does not set off a sufficient amount, as the weight of evidence shows the equation should be on a basis of not less than one to three and not more than one to two, or an average of two to five. That this is conservative in complainant's favor is indicated by the evidence:

Riggs, from as 2 is to 1, to as  $2\frac{1}{2}$  is to 1 (R. pp. 4193-96)  
 Young, from as 2 is to 1, to as 3 is to 1 (R. pp. 8266-70)  
 Lytle, from as 2 is to 1, to as 3 is to 1 (R. pp. 8242-43)  
 Lindsay, from as 2 is to 1 (R. pp. 10115)  
 Delf, as 3 is to 1 (R. pp. 3587-88)

Applying the modification to 2 to 3 would increase the allocation of expenses to exclusive freight tracks by above \$6,450.

Thompson made this equation to set off exclusive track, on the proportion of three to one, relying upon the testimony of Delf. He testified to no independent knowledge upon that particular subject. The further testimony indicating a different equation was given after Thompson used Delf's proportion.

It is apparent that there should be set off to the exclusive trackage a part of the expense of maintenance of equipment under "Work Equipment—Repairs," "Work Equipment—Renewals" and "Work Equipment—Depreciation," as this equipment is used in maintaining that trackage, and the same principle which has induced the Master to divide the similar items of property as overhead would require a part of these items to be attributed to exclusive trackage. The four-year average to be set off would be above \$1,200.

Under "Transportation Expenses," the items "Superintendence," "Dispatching Trains," and "Stationary and Printing" are, in part, incurred for exclusive trackage, and a proportion of each of these items should be set off to exclusive track. This, using a four-year average, will be above \$5,000.

#### *Objection No. 8:*

Such report, and the conclusion and findings thereof, are erroneous in failing to find, and deduct from the

value of complainant's property to be supported by rates, as claimed by defendants, the value of property used by the complainant, and included in the inventory, which was contributed to complainant by the public for rail-road use.

*Objection No. 9:*

Such report, and its conclusions and findings, are erroneous in allocating property between services and states, in that:

(a) Passenger stations, at points where there is no exclusive freight building, or where the common agent makes his office in the passenger station and it is essential that the public doing freight business with the road use the so-called passenger station, are assigned in too large a proportion to passenger business, with insufficient separation to freight business.

(b) An insufficient part of the Marquette station and grounds is assigned to common and freight business, and no part of them is assigned to the Wisconsin business.

*Objection No. 10:*

Said report, and its conclusions and findings, in the divisions between services of property commonly used in passenger and freight services, are erroneous, in the particulars that:

(a) Neither the basis of the time of use by the respective services, as proposed by the defendants, nor the alternative basis, using the modified revenue train-mile ratio, as computed by the defendants, was used.

(b) The amended modified revenue train-mile ratio, as adopted by the Master, is erroneous, as it

attributes to passenger business a greater amount, volume and value of property, and to the freight business a lesser amount, volume and value of property, than is used by them respectively. The errors therein are in the particulars that:

(1) It does not give effect to the time, value or amount of use by the respective services.

(2) The modified revenue train-mile ratio used by the Master is built up upon a percentage of the time of freight trains engaged in stational service which is less than the actual percentage mathematically computed from the actual time of freight trains spent in stational service as shown in the testimony, the percentage used being 32.2 per cent, and the correct percentage being 36 per cent.

(3) In computing such ratio, it was assumed that a portion of the stational time of freight trains represented by the 32.2 per cent stational time used by the Master is idle time, whereas, in fact, freight trains are, during all of the stational time, using the property.

(4) In the elimination from the percentage of the time of freight trains engaged in stational service of the part of their time spent on exclusive freight track, too large an amount of time is deducted, due to the use of too great a mileage of exclusive freight track and of too small a mileage of common track, and to the assumption that the volume of use or stational time spent on the tracks, per track mile, is the same for both common and exclusive tracks.

(5) In dividing the statistical switching mileage of complainant between the passenger and

freight business for addition to the train mileage to reach the modified train-mile ratio, too great an amount of switching mileage is attributed to exclusive, and too small an amount to common, tracks.

(6) In arriving at the modified revenue train-mile ratio which the Master uses, the applicable presumptions of law are reversed by him, and, instead of resolving the doubts in favor of validity of the statute and rate, he has resolved doubtful questions against the sufficiency of the rates.

(7) The division of property between passenger and freight services, as made by the Master, is dependent solely upon opinion, without adequate supporting data.

(8) The deductions and recomputations by which the complainant alters defendants' modified revenue train-mile ratio, which deductions and recomputations are accepted by the Master, depend largely on the assumption of unproven conditions, on which there is no testimony; the assumptions without evidence being:

That 15 per cent of the time of freight trains engaged in stational service is idle.

That stational service occurs in equal volume on exclusive and on common tracks.

That the statistical switching mileage is made on exclusive track in the same relative proportion per track mile as it is made on common track.

---

No method for the apportionment of common property and expenses between passenger and freight reaches pre-



cise accuracy. The degree of variation of any ratio for this division from the precise truth is uncertain; the variation from the truth may be ten or even twenty-five per cent.

The revenue train-mile ratio, as modified by the respective parties, fixes no division of common expenses known to be exact; it still contains an uncertain amount of uncertainty. If in this instance either ratio reaches precise results, it is because the accidental results of certain related, though not controlling, facts in the particular case produce that effect, and not because of certainty of the rule adopted.

Complainant is insistent on its method of modification, which produces a passenger ratio of 42.48 per cent. Defendants are equally insistent on their modification, which produces a passenger ratio of 38.06 per cent. The difference is but 4.42 points.

Complainant's modification is dependent on several important but unproven assumptions, the specific proof upon which might so vary its percentage as to reduce it almost, if not quite, to defendants' ratio.

Under these circumstances, we doubt if the Master can, consistently with the testimony, or with the rules which require opinions as opposed to the validity of a rate to be taken with caution, or with the rules which require the error, if any be made, to be on the side of certainty, and those which require all doubts to be resolved in favor of the validity of the rate, find that the modified revenue train-mile ratio as now claimed by complainant represents the truth or the point nearest to the truth.

In the *Missouri Rate Case* (230 U. S. 507), it was said:

“ . . . in an issue of this character involving the constitutional validity of state action, general estimates of the sort here submitted with re-

spect to a subject so intricate and important should not be accepted as adequate proof to sustain a finding of confiscation."

In the *Minnesota Rate Case* (230 U. S. 466), it was said:

" . . . the company having assailed the constitutionality of the state acts and orders was bound to establish its case, and it was not entitled to rest on expressions of judgment when it had it in its power to present accurate data which would permit the court to draw the right conclusion."

In the *Arkansas Rate Cases* (230 U. S. 560), it was said:

" . . . It was not sufficient for the complainants to criticise the tests relied upon by the defendants, but in seeking to override the action of the State upon constitutional grounds it was incumbent upon them to establish the invalidating facts by definite and convincing proof."

The possibility of error as against the validity of rates must be guarded against, and where two ratios to represent the same thing are presented, that one which beyond doubt will not unduly burden the passenger business must be taken, unless there are proven and stronger reasons which indicate that the other ratio does not too greatly burden the passenger business.

Under the circumstances, and due to the fact that complainant's ratio is dependent on unproven assumptions made the basis of steps in computation, it seems obvious that defendants' modification, as here made, is to be taken.

Defendants, while insistent that their ratio of 38.06 per cent represents the greatest amount of property and expenses which could be charged against the passenger

business, feel certain that due deliberation on the part of the Master will indicate to him that the highest possible percentage for passenger will be not greater than a point half-way between the ratios of complainant and defendants. This makes a reasonable adjustment for the claims of complainant, although we deny that any adjustment should be made for claims, the working out of which depends upon assumption and not upon proof.

Assume for the moment that the entire solution of the case depended upon which of these ratios is adopted; that, complainant's ratio being adopted, the rate is defeated; that, defendants' ratio being adopted, the rate is sustained; in such a situation, would the Master or any court be warranted in basing the decision on the complainant's ratio, which depends on unproven assumptions?

Due to the fact that neither ratio is known to fix exact results, that the difference between them is small, that the duty is to sustain the statute if possible, that doubts must be resolved in favor of validity, and that the presumptions are all of validity, it would follow, in such a situation, that the ratio most favorable to the passenger business must be adopted.

We think it clear that the Master should revise his modified revenue train-mile ratio.

(The above discussion applies also to Objection No. 19.)

---

*Objection No. 11:*

The defendants reserve the right to present an exception that such report is erroneous in its finding and determination that the gross passenger income for the four years, 1910-1913, is to be taken and used for testing the validity of the statute, instead of the gross passenger income for 1913.

*Objection No. 12:*

Exception is made, and objection taken, to the failure to find and use the average value of the complainant's property in use in its railroad business for the four years (1910-1913) for which the income and expenses are averaged and used.

The Master says (p. 226):

"If the four-year average is to be taken for any purpose it must be taken for all purposes."

*Objection No. 13:*

The defendants reserve the right to present to the Court an exception to so much of said report as apparently determine a public utility, whose property is kept on a fixed or rising level of condition from year to year out of operating expenses, to be entitled to reduce the net income by a charge for annual depreciation, particularly in view of the evidence which shows the condition of complainant's railroad, in 1912 and 1913, was improved out of operating expenses.

---

No annual depreciation can be charged unless it exists in fact. If, during a particular year or series of years, the property as a whole is in the same or a higher percentage of physical condition than in the previous year or series of years, which is the situation of complainant's railroad, there has been no depreciation, and none can be charged.

The Master's argument fails to differentiate between a single structure and a property made up of a myriad of items which are undergoing constant change, being decayed and worn out, particular items from time to time being replaced *in toto*, while still others are repaired. If, treated as a composite structure, the same percentage

of condition in the entire line is maintained out of operating expenses, no chargeable depreciation accrues. The error is in assuming a structure with limited life, which would eventually depreciate to nothing and disappear, instead of using the existing fact of a composite structure made up of the entire railroad, whose life is perpetual because of maintenance of condition by operating expenses.

When a particular structure disappears, operating expenses replace it with a new structure of the same kind, and the result is to raise, or to keep constant, the level of condition of the composite structure of the entire railroad, though other individual structures may in the meantime run down in condition.

*Objection No. 14:*

The right is reserved to present an exception to the Court that said report is erroneous in the statement and conclusion that:

“if the tie prices paid in 1913 had been in effect in the three preceding years and if in each of the four years a proper charge had been made for annual depreciation on the bridges, trestles, and culverts on complainant's road in Michigan, to say nothing of depreciation on buildings and other property, which depreciation I have not attempted to compute, the average Michigan operating expenses of those years would have been increased by \$70,159; the average Michigan passenger operating expenses would have been increased by \$21,769, and the average Michigan intrastate passenger expenses would have been increased and therefore the average Michigan intrastate passenger net income reduced by \$13,346.”

*Objection No. 15:*

The defendants reserve the right to object to the final report, in that the amounts deducted from the operating expenses of 1913, to eliminate abnormal expenditures, expenditures for additions and betterments, and expenditures for deferred maintenance, to reduce the expenses in that year to a normal amount, are insufficient, and that, after the elimination of the amounts deducted, the expenses of 1913, as used by the Master, are still abnormally high.

*Objection No. 16:*

Said report, and its conclusions and findings, are erroneous, as the operation of sleepers and diners is not eliminated from the operations of carrying passengers at two cents per mile, and there is not eliminated, as part of such outside operations, not only the added (or "out of pocket") costs by reason of doing such business, but also a proper proportion of all costs attributable thereto.

---

The statutory rate must stand upon its own bottom. It cannot be called upon to bear the burden of, or be made profitable or unprofitable by combining it with, optional operations. Where optional operations are added, they must bear their proportion of the total cost, and be charged with their proportion of the property used.

The Legislature required passenger carriage at two cents per mile, and complainant will not be permitted to say it cannot carry at that rate because it adds to the service furnished, or to the operations carried on, other optional facilities.

In the *Dakota Coal Case* (236 U. S. 596), the Court determined each branch of the service should bear its full proportion of all costs, which is the doctrine we have



contended for, for this item, throughout; and in the *Ann Arbor Rate Case* the Court, in setting off expenses of outside operations, including sleepers and diners, applied the percentages of separation to all costs.

The fundamental principles applicable in the performance by the courts of the duty to review legislative action, to determine whether it meets constitutional requirements, render it imperative that the legislative action shall not be determined to exceed constitutional limitations until every possible influence which might affect the validity of the statute be analyzed and resolved in favor of the validity of the statute. That principle requires, when a certain rate is being tested, that the costs for such service be separated from all other costs, before the legislative action is overruled.

Every reason requiring a proportion of all costs to be attributed to the business being tested, in determining the sufficiency of the rate regulated, also applies in determining the cost of service eliminated. The arguments on this question in our Printed Brief (pp. 241-48) are clear, and should be convincing.

---

*Objection No. 17:*

Said report, and its conclusions and findings, are erroneous, in that the amount set apart and used as the revenue to support the property used in the passenger business is deficient in the particulars that:

(a) The revenue from passengers over the Mackinaw Transportation Company's boats are not included (to include the revenues would also require restoring of the passenger proportion of the property).

(b) If sleeper and diner operations are permitted to remain as part of the passenger operations of

complainant in determining the sufficiency of the two-cent statutory rate, then the earnings of such operations, claimed by the defendants to be \$8,066.69, or at least \$3,989. thereof, should be included in the Michigan earnings, instead of the earnings of \$725.32 claimed by complainant and included by the Master.

---

We are unable to reconcile the determination of the Master to retain the Soo bridge and Soo station as part of complainant's operations and the sleeper and diner operations as part of its passenger operations, and to eliminate the passenger operations and net passenger earnings over the Mackinaw Transportation Company. Consistency would exclude or include both.

The income from D., S. S. & A. passengers over the Mackinaw Transportation Company is received by it as earnings, though being used in reduction of its loss in the freight operations of the ferry. These passenger operations, for the convenience of passengers, of necessity result in stimulating passenger traffic and should not be eliminated unless the sleeper and diner operations are also eliminated.

The use of complainant's cars in the ferry operations, together with the cost of switching to and from the boats, should be charged against the net proceeds from passengers over the ferry.

On page 263 of his report, the Master states that complainant, whose results he accepts, "assigned to Michigan the revenues of all dining cars operating exclusively in Michigan." Our objection to this is that we have been unable to find in the Record any proof of such assignment, and do not believe there is such proof. In the absence of such proof, such revenues are properly divided on the basis used by defendants, namely, the revenues from passengers in the respective states.

The expenses of both sleepers and diners were divided between states by complainant on the basis of the mileage of all cars of the class in the respective states, and by defendants on the basis of the mileage of D., S. S. & A. cars of each class in the respective states. The expense divided arises on the operation of D., S. S. & A. cars, and not on the operation of sleepers and diners of other companies. The mileage of sleepers and diners of other companies cannot, therefore, enter into the apportionment of expenses.

The divisions of both revenues and expenses, as made by defendants, are therefore the more proper.

Inasmuch, however, as the expenses of diners include no train expenses and no car expenses having relation to mileage, except repairs, the expenses are more properly divided on the same basis or ratio as revenues are divided. Making the division of expenses in this manner, and leaving all other items the same, would decrease the assignment of expenses to Michigan by \$3,264.05, and would increase the net revenue from diners for 1913, from the \$725.32 allowed by the Master, to \$3,989.37.

Any basis for assignment of expenses in this service between states which assigns to Michigan a greater proportion of expense than of revenue is on its face improper, as it must be assumed that the expense for service and supplies would be no greater, and probably would be less, in the state where the greater volume of service occurs than in the state where the lesser volume occurs.

On page 266 of his report, the Master states he does not know in what manner revenues of sleepers and diners are divided by defendants between Michigan intrastate and interstate passenger. Such division was on the basis of passengers carried one mile in each class of service. This is the method used by the Master.

*Objection No. 18:*

The conclusion and finding that unearned increment in lands and other property, due to increases of values which complainant has been permitted to add to the value of its property and held entitled to a return upon, is not an income and not to be considered in determining the sufficiency of the rate of return, is erroneous, and the right is reserved to make the same the subject of an exception.

*Objection No. 19:*

Said report, in its conclusions and findings that common expenses, not otherwise divided between passenger and freight services by the Master, are properly to be divided, and in dividing the same on the basis of the modified revenue train-mile ratio as computed by complainant and adopted by the Master, is erroneous in the particulars that:

(a) It disregards the actual volume and time of use, which are the proper factors for dividing those expenses incident to weather and time, and not to train movement; and it disregards the gross ton-mile ratio, which is to be considered in dividing those expenses due to train movement and the result of wear.

(b) It passes over, and refuses to take and apply, a basis as favorable as defendants' modified revenue train-mile ratio, which more clearly approximates correct results than does complainant's modified revenue train-mile ratio.

(c) It divides weather expenses upon a basis having no proper relation to their causes.

(d) In the computation of the modified revenue train-mile ratio adopted by the Master, the imper-

fections appear, which are hereinbefore described in  
Objection No. 10.

*Objection No. 20:*

Objection is made, and exception taken, to so much of said report as finds that there is proof of loss of power in the freight engines due to super-elevation of curves for passenger service, or that any amount can be fixed for the cost thereof attributable to fuel.

*Objection No. 21:*

Objection is made, and exception taken, to so much of said report as finds the evidence to show that the line and road of complainant is better maintained than if maintained for freight service only.

---

The evidence on the question of better maintenance for passenger service was quite evenly balanced between the witnesses who testified that such better maintenance did exist and those who testified that it did not exist. The tests, however, applied to the testimony of these witnesses and referred to in Defendants' Briefs (typewritten Brief, pp. 316-19), show that those witnesses who testified to better maintenance were in error, and that those who testified to no better maintenance due to the passenger service were correct (see, also, Defendant's typewritten Brief, pp. 311-16, 319-20).

---

*Objection No. 22:*

Objection is made, and exception taken, to so much of said report as divides account number 91, "Crossing Flagmen and Gatemen," on the modified revenue train-mile ratio.

Such expenditures are for the protection of the public, not only against the operation of trains, but also against the much more frequent movement of cars and locomotives engaged in switching; therefore, as they only exist in yards on complainant's road, they are most properly divided in the proportion of freight and passenger yard switching.

*Objection No. 23:*

Objection is made, and exception taken, to the division of common Michigan passenger expenses between intrastate and interstate on the ratio of passengers carried one mile, as the cost per passenger per mile is so affected by the relative density of traffic that, due to the greater number of passenger miles in the intrastate business as opposed to the interstate business, the cost per passenger per mile is of necessity less in intrastate.

---

On page 304 of complainant's brief, it states, "It must be remembered that density of traffic is one of the most important factors in rate making."

Conceding the correctness of this statement and applying it to the cost of intrastate as opposed to interstate passenger carriage, it of necessity follows that the greater density of intrastate passenger miles produces less costs per mile per unit. The admitted result of the application of these well-known and conceded principles is that costs of passenger carriage, when found, cannot be divided between intrastate and interstate passenger business, upon this railroad, on the basis of passengers carried one mile, but must be divided on a basis which makes allowance for the lesser cost per unit in the intrastate business due to the greater density of passenger miles. To apply the rule of passenger miles



without taking into account this factor is to deceive ourselves in the results. A table, prepared by Mr. Parker, was furnished upon the argument, which showed the results of considering the added intrastate passenger miles since 1910 as causing but 20 per cent of the expense attributed to the passenger miles previously existing, this percentage being based upon the testimony of Mr. Delf. We insist that the ratio of division between intrastate and interstate fixed in that computation was more proper than the division upon straight passenger miles.

---

*Objection No. 24:*

Objection is also made to the division, between intrastate and interstate passenger business, of the accounts "Station Employees" and "Station Supplies and Expenses" on the relative number of intrastate and interstate passengers, as such division should be on a ratio not more unfavorable to the intrastate business than that of passengers carried one mile.

---

The division of the accounts "Station Employees" and "Station Supplies and Expenses" on the relative basis of passengers traveling in intrastate and interstate passenger business apportions to the intrastate business, in 1913, 88.04 per cent; in 1912, 87.50 per cent; in 1911, 86.90 per cent; and in 1910, 85 per cent.

This assumes that the cost of selling tickets to, and use of station privileges by, interstate passengers are but 12 per cent to 15 per cent of the entire cost, and that the cost of sale of tickets to, and use of station facilities by intrastate passengers are 85 per cent to 88 per cent, which is not the fact.

It is well known that the agent must be on duty anyhow; that he can sell more tickets without extra cost to the company, and that the costs would not vary in the proportion of tickets sold, but that the tickets sold in greater volume would be sold at less expense per unit than those sold in lesser volume.

Also, the proof shows, and common knowledge indicates, that the cost for ticket sales to, and the use of station facilities by, persons traveling interstate, who, for the most part, purchase coupon tickets and use the stations more, are more per ticket than the cost of sale of tickets to, and the use of station privileges by, intrastate passengers, as they, for the most part, purchase card tickets.

If these accounts are divided on the ratio of passengers carried, there is nowhere in the case any adjustment to take care of the greater interstate expense of accounting and adjustment and settlement of traffic balances. This expense is in a measure compensated for if the division is on the basis of passengers carried one mile. The additional costs per ticket, or per passenger, in interstate, as against intrastate, are pointed out in detail in Defendants' typewritten Brief (pp. 467-71).

It must not be forgotten that the agent does not devote his time exclusively to the sale of tickets, but that, at most stations, he attends to the telegraphing for all services, attends to the mail and express, and to the switch lights, etc.

---

*Objection No. 25:*

The proposed report states that the account "Industrial and Immigration Bureaus," under "Traffic Expenses," is divided on the gross revenue basis, while the Master's Exhibit 6 states that this account is divided, as

it is in fact divided, on the modified revenue train-mile ratio.

*Objection No. 26:*

Said report and its determinations and findings, upon which the Master bases and allows an estimated loss, due to putting into effect the rate of two cents per passenger per mile, equal to the difference between the earnings under the rates now in force and the earnings on a flat two cents per passenger per mile applied to the same amount of passenger business as done in the years considered, are objected and excepted to for the reasons that:

(a) There is no proof that there will be any loss.

(b) There is no basis for a conclusion that increased traffic will not result from the decreased rate.

(c) Said rate never having been put into operation there is no experience or basis on which to estimate loss due to putting it into effect.

(d) There is no testimony that increased traffic due to the decreased rate will not so increase the volume of traffic carried that there will be no loss.

(e) The presumption, that increased traffic due to the decreased rate will be sufficient to overcome, in whole or in part, the loss in revenue per passenger per mile due to the decreased rates, has not been overcome.

(f) The conclusion that the reduction of rate in 1907 did not result in increased traffic is unsupported by the evidence, and the proper conclusion therefrom is that an increase did result from such reduction.

The rates affected by this case have never been put into operation. The record does not show, and no one knows or ever will know, unless they are put into operation, whether the result of their operation will produce increased traffic or not, or how fully the increased traffic, if produced—and experience says that it will be—will compensate for the reduction of rates. The logical, and almost inevitable, result of decreased rates is increased traffic. This is the holding of the cases cited in Defendants' printed Brief (pp. 137-40), and in Defendants' typewritten Brief (pp. 511-13).

To say, without the test of experience and without testimony—for there is none—that the decreased rates will not produce increased traffic is impossible. To allow complainant, as loss, the full difference between the amounts produced by the old rates and amounts which would be produced by the new rates is to disregard the experience, which amounts almost to presumption that traffic will increase, and to cast the burden against the validity of the statute, and to render it impossible that there can ever be any operation which will determine whether the rates, if put into effect, would be confiscatory or not.

In numerous cases, injunctions have been denied and complainants required to put the rates into effect, in order to give the test of experience.

Of the cases cited by the Master to the contrary effect, the *Arkansas Rate Cases* (187 Fed. 309) will be found on inspection to have been a case where the rate had been put into operation, and the figures and computations presented in the case were those based upon actual operation under the reduced rate; thus that case is not applicable.

In *Chicago and Northwestern vs. Dey* (35 Fed. 881), the question presented was not the sufficiency of rates

under proofs, but was whether a temporary injunction should issue, pending investigation. The defendant pointed to the probability of increased traffic to prevent issuance of the temporary injunction, which resulted in the language the Master has quoted (p. 285).

That situation was very different from assuming, when all proofs are in and there is no proof that loss will occur, that there will be a loss equal to the difference between the old and new rates applied to the previous traffic.

If the language quoted by the Master could be regarded as the judgment of the Court applicable in a trial on the merits with full proofs, then it is contrary to the later decisions of the Federal Supreme Court (cited in Defendants' Briefs), which proceed on the theory that reduced rates will operate to increase traffic.

It should not be overlooked that the same questions as presented in the *Dey Case* were again before Justice Brewer a few months later (38 Fed. 656, 664), and at that time he modified his previous ruling and required the test of experience, saying:

“ \* \* \* Of course this fact does not authorize injustice, or sanction rates which are unreasonable; but it suggests the propriety in view of the considerations heretofore noticed, of actual experiment as the most satisfactory test of the reasonableness of rates. I quote in this respect the language of Mr. Chief Justice Woods in the case of *Tilley vs. Railroad Co.*, 5 Fed. Rep. 662:

‘The officers of the railroad company declare that the rates fixed by the commission will so reduce its income that it will not suffice to pay the running expenses of the road and the interest on its bonded debt, leaving nothing for dividends to its stockholders. The railroad commis-

sioners assert that their schedule was framed to produce eight per cent. income on the value of the road after paying cost of maintenance and running expenses. Which view is the correct one it is impossible to decide from the evidence submitted. There is, however, a conclusive way,—and it seems to me it is the only one,—by which this controversy can be settled, and that is by experiment. A reduction of railroad charges is not always followed by a reduction of either gross or net income. It can soon be settled which is right—the railroad company's officers or the railroad commission—in their view of the effect of the commission's tariff of rates by allowing the tariff to go into operation.'

While quoting this language as applicable hereto, I do not mean to indorse it as of universal application, but only under the circumstances of the present case. Where the effect of the rates is doubtful, with a probability that they will prove compensatory, and the amount of business to be affected thereby is comparatively small. I think the courts may well wait for the test of experience. Influenced by these considerations, I am led to refuse the preliminary injunction, and to set aside the restraining order heretofore entered. It may well be that by the time this case comes to a final hearing the test of experience will have solved some of these matters, and it may be clear—as now seems probable—that the rates imposed by this last schedule are compensatory within the rule laid down in the prior opinion, in which case no injunction ought to issue, or clear that they are not compensatory, in which case, be-



yond any doubt in my mind, a final and permanent injunction ought to be granted. • • • .”

The result of the Master's ruling is to deny the test of experience, or the necessity therefor. The result of the rulings in the decided cases is that where there is an appreciable return, as there is in this case upon the Master's computations, the test of experience will be required, and the requirement of that test of experience should not be hindered either by the finding of the Master or a ruling of the Court.

Upon final proofs, where the complainant has not itself put the rates into operation and furnished the basis for a test of experience, but has engaged in a protracted litigation, it will at the end of such litigation, if an appreciable return is shown, be required to carry at the rates fixed, on the assumption that increased business will be produced by their reduction. In *Knoxville vs. Knoxville Water Co.* (212 U. S. 15-16), this practice was followed. The Court there said:

“ • • • The precise subject of inquiry was, what would be the effect of the ordinance in the future. The operations of the preceding fiscal year, or of any other past fiscal year, were valueless if the year was abnormal, and were only of significance so far as they foretold the future. If, as in this case, sufficient time has passed, so that certainty instead of prophecy can be obtained, the certainty would be preferable to the prophecy. In this case there could be no absolute certainty, because the ordinance had never been put in operation. But evidence of the operations of the years succeeding to the ordinance is relevant and of great importance, and by a consideration of such evidence a much greater degree of certainty could be obtained. Suppose, by way of illustration, that before bringing suit the company

had put the ordinance into effect and had observed it for a number of years, and the result showed that a sufficient net income had been realized, is it possible that a suit then could be brought and the evidence confined to a period prior to the ordinance, and by a process of speculation the conclusion reached that the ordinance would be confiscatory? Some evidence regarding the income of the company, after the passage of the ordinance, is in the record, but it subsequently was excluded from consideration. It showed an increase of gross and net earnings, but also an increase in the property devoted to the public use. We are unable to say what the effect of the evidence excluded would be; all we can say is, that the inquiry was unduly limited by the exclusion of the evidence of the operation of subsequent years.

It follows from what has been said that the judgment of the court below cannot stand. There was error in the appraisalment of the present value of the plant, in the deduction of the reductions made by the ordinance, and in the exclusion of evidence relating to the operations of the company after the enactment of the ordinance.

In ordinary cases full justice would be done by reversing the decree and remanding the cause for further proceedings in the court below, thereto undergo a new and doubtless prolonged investigation. It is more than seven years since the enactment of the ordinance, and it has never been observed in any respect. This litigation ought now to be ended, if it is possible to end it with due regard to the rights of the contending parties. Disregarding for the moment all the errors which were committed in the court below, the decision of this cause may be rested upon a broader ground, which is clearly indicated

by the previous judgments of this court. The jurisdiction which is invoked here ought, as has been said, to be exercised only in the clearest cases. If a company of this kind chooses to decline to observe an ordinance of this nature and prefers rather to go into court with the claim that the ordinance is unconstitutional, it must be prepared to show to the satisfaction of the court that the ordinance would necessarily be so confiscatory in its effect as to violate the Constitution of the United States. \* \* \*."

Statistics of complainant show its printed Brief (p. 244) to be in error, and that there was an increasing volume of intrastate passenger miles from year to year, and an increase in the number of passengers carried, the figures being as follows:

Year	Number of Passengers	Passengers one Mile
1910	588,745	18,358,957
1911	621,628	19,645,802
1912	628,593	20,090,114
1913	669,350	21,744,820

This of itself indicates that the conditions are such that the intrastate traffic will be increased by the decreased rate. If, as complainant claims in its Brief, the refund coupon affords some stimulus to traffic, its effect may already be marked by the increases shown.

That the reduction of rates by those in public service will increase business is not merely a possibility, but is a probability, is established. This probable result is regarded as so sure to happen that where there has been no test of experience it is the invariable rule to require the rates to be put into effect before a law reducing them is declared invalid.

It follows, that a decision of invalidity will not be

predicated alone upon losses said to be due to the decreased rates until those losses are shown by the effects of actual operation under the rates. We think no case can be found where a final decision of invalidity has been predicated upon such losses not shown by actual experience.

In *Tilley vs. Savannah, Florida & Western* (5 Fed. 663), it was said:

"A reduction of railroad charges is not always followed by a reduction of either gross or net income. It can soon be settled which is right—the railroad company's officers or the railroad commission—in their view of the effect of the commission's tariff of rates, by allowing the tariff to go into operation."

In *Capital City Gaslight Co. vs. Des Moines* (72 Fed. 846-7), it was said:

"It is insisted by defendant that the reduction in price of gas will work a corresponding and large increase in amount consumed, resulting in increase of net profits as well. That some increase in consumption will follow reduction in price, plaintiff admits, but insists that there is no basis for believing such increase will be large, or that the net profits will increase at all. What will be the amount or per cent of increase in consumption, and whether any increase in profits will result from reduction of rates, is, and must at present be, an uncertain matter. In *Railroad Co. v. Wellman*, 143 U. S. 343, 12 Sup. Ct. 400, Mr. Justice Brewer inquires:

'Must it be declared, as matter of law, that a reduction of rates necessarily diminishes income? May it not be possible—indeed, does not all experience suggest the probability that a reduction of rates will increase the amount of

business, and therefore the earnings? At any rate, must the court assume that it has no such effect, and, ignoring all other considerations, hold, as a matter of law, that a reduction of rates necessarily diminishes the earnings?’

“The same learned justice, in the opinion rendered by him on this circuit, as circuit judge, in *Railway Co. v. Dey*, 35 Fed. 881, when speaking of the application in that case of the possible increase of business as following reduction of rates, uses this language:

‘Again, it is said that it cannot be determined in advance what the effect of reduction in rates will be. Oftentimes it increases business, and who can say that it will not in the present case so increase the volume of business as to make it remunerative—even more so than at present? But speculations as to the future are not guides for action. Courts determine rights upon existing facts. Of course, there is always a possibility of the future; but the only fair judicial test is to apply the rates to the business that has been done in the past, and see whether, upon that basis, such rates will be remunerative, or will compel the transaction of business at a loss.’

“After all, there can be but one certain method of ascertaining the effect of reduction of rates, and that is the test of experience.”

In *Cotting vs. Kansas City Stock Yards Co.* (82 Fed. 839, 850), it was said:

“ \* \* \* Besides, it does not always follow that a decrease in rates results in a corresponding decrease in net earnings. Generally, business under

the stimulus of reduced rates increases in volume.

• • • .”

In *Central of Georgia vs. M'Lendon* (157 Fed. 976), it was said:

“The foregoing brings the matter down to the other important, and for the present controlling, question in the case, namely, whether the complainant will sustain any loss in revenue by reason of the decreased passenger rate on its domestic business. It is alleged in the bill that this loss will be approximately \$300,000. A table is given showing the actual earnings, and the estimated earnings by reason of this circular. There would seem to be a very great difference between the effect of a reduction in passenger rates and in freight rates. In the case of reduction in passenger rates, the decreased rate might stimulate travel, and increase it to such an extent as to overcome the difference in rate, whereas the same amount of freight would probably move under any reasonable rate. The court is asked to assume that the reduction in rate would necessarily bring about a reduction in revenue. In the case of *Railroad Company v. Wellman*, 143 U. S. 339, 12 Sup. Ct. 400, 36 L. Ed. 176, it is said in the opinion of Mr. Justice Brewer on this subject:

‘Must it be declared as a matter of law that a reduction of rates necessarily diminishes income? May it not be possible—indeed, does not all experience suggest the probability—that a reduction of rates will increase the amount of business, and therefore the earnings?’

“This language was quoted with approval in *Railway Company v. Gill*, 156 U. S. 649, 15 Sup. Ct. 484, 39 L. Ed. 567.”



In *Railroad Commission vs. Central of Georgia* (170 Fed. 235-36), it was said:

“ \* \* \* there is left an element of uncertainty that is not answered by a reference to last year's profits, to-wit, the amount of business that would be done under the lower rates, and this nothing but a practical test would show. 'May it not be possible—indeed, does not all experience suggest the probability—that a reduction of rates will increase the amount of business, and, therefore, the earnings?' *Chicago & G. T. Railway Company v. Wellman*, 143 U. S. 339, 343 \* \* \* .”

In *Lincoln Gas & Electric Light Co. vs. Lincoln* (182 Fed. 929), it was said:

“ \* \* \* It is quite probable that the reduced rate would considerably increase the consumption of gas and thus increase complainant's net profits. The record shows that in June, 1902, complainant voluntarily reduced its rates from approximately \$1.50 per thousand to \$1.20, and the amount of gas consumed, and net profits resulting, considerably increased. \* \* \* .”

In *Chicago & Grand Trunk vs. Wellman* (143 U. S. 343), it was said:

“ \* \* \* Must it be declared, as matter of law, that a reduction of rates necessarily diminishes income? May it not be possible—indeed, does not all experience suggest the probability—that a reduction of rates will increase the amount of business, and therefore the earnings? \* \* \* .”

In *Willcox vs. Consolidated Gas Co.* (212 U. S. 51), it was said:

“ \* \* \* And again, increased consumption at the lower rate might result in increased earnings, as

the cost of furnishing the gas would not increase in proportion to the increased amount of gas furnished.

Of course, there is always a point below which a rate could not be reduced, and, at the same time, permit the proper return on the value of the property; but it is equally true that a reduction in rates will not always reduce the net earnings, but, on the contrary, may increase them. \* \* \* .”

*In Railroad Commission vs. Cumberland Telephone & Telegraph Co.* (212 U. S. 426), it was said:

“ \* \* \* We say this because the evidence shows that, in the case of telephone companies, the general result of a reduction of rates in some other kinds of business does not always follow,—namely, that there would be an increased demand, which could be supplied at a proportionately less cost than the original business. Such, it is admitted, would be the case generally in regard to water companies, gas companies, railroad companies, and perhaps some others, where the rate is a reasonable one.  
\* \* \* .”

There have been cases in which actual test did not show sufficient increase in business to compensate for the decrease in rate, but those cases are not cited as germane to the issue where there has been no test.

---

*Objection No. 27:*

The defendants reserve the right to present to the Court an exception that the said report in its determinations and findings as to the amounts of property, revenue and expenses attributable to complainant's freight business, and the intrastate proportion thereof, is improper, in that:

(a) An insufficient amount of property and expenses is assigned to freight business, with the result that passenger business is unduly burdened.

(b) In the division of property and expenses allocated and assigned to freight business between intrastate and interstate, an excess amount thereof is assigned to intrastate.

(c) In the division of property and expenses between the intrastate and interstate business, the allowance of a greater amount of stational expense as attributable to intrastate than is attributed to interstate business is improper and founded on improper and insufficient evidence.

*Objection No. 28:*

The defendants reserve the right to present to the Court an exception that the said report and its determinations and findings as a whole are erroneous and not in accordance with the evidence, as:

(a) The net revenues shown therein to be earned by, or attributed to, the intrastate passenger business are less than under all the evidence they should be found to be.

(b) The amounts of property and expenses attributed, assigned or allocated to intrastate passenger business are greater than under all the evidence they should be found to be.

*Objection No. 29:*

The defendants reserve the right to except to the refusal of the Master to permit the introduction of, or to consider, the report showing passenger earnings for the fiscal year 1914.

The defendants request that the details of the computations, the results of which are found in, or accompany, the proposed report, be made part of the report.

*In Conclusion:*

The above objections are presented with the purpose of saving the defendants' rights of review by the court, while avoiding hypercritical contentions. Our desire is to aid the Master to the utmost in reaching correct results, and the earnest convictions of counsel for the State, in the justice of its case, and in the merits of their contentions, lead them, in the outline hereinbefore set forth, to again attempt to present in brief and compact form the points upon which, taken separately or cumulatively, the case may be said to turn.

---

## DISCUSSION OF COMPLAINANT'S OBJECTIONS.

*Valuations.*

Under this heading complainants make a general objection to my valuation of certain designated schedules (thirteen in number), but make no specific objection as to any particular schedule except Schedules 19 and 20. As to the other schedules the objection amounts merely to a notice of an intention to make specific objections thereunder to the court in opposition to the confirmation of my valuations of those schedules, and as such calls for no consideration by me.

With reference to Schedules 19 and 20, specific objection is made to the assignment to Wisconsin of any portion of the value of shops, engine houses and turntables and shop machinery and tools, all of which are located in Michigan.

This objection is based on the theory that all property that is located and used entirely in Michigan should be treated as wholly intrastate, although the use is for the entire system and is therefore shared to some extent by the service in Wisconsin. I cannot accept that theory.

Where property is so used that the results of the use are shared by both the intra and inter services, I am clearly of opinion that such property should be apportioned between the two services in proportion to the extent that each shares in those results, whether the property is in one state or the other, and therefore that the objection is not well taken.

#### *Taxes During Construction.*

Under this heading objection is made that my allowance of \$100,000 for taxes during construction is too small and should be increased to \$150,000.

This subject was very carefully considered by me in all its bearings; and I can see no reason for changing the views expressed or the conclusion reached in my findings. That conclusion I believe to be just and fair to both parties.

#### *Average Year as Typical.*

Complainants here object to the taking of an average year as typical instead of a single year. A similar objection is made by defendants and I have decided to sustain both objections, and abandon the average of four years taken as typical in my findings and to adopt instead the year of 1913. My reasons therefor will be found set forth in connection with the defendants' objections, numbered 11 and 12.

#### *\$12,000 Paid to President Fitch.*

Under this head complainants object to my refusal to allow as an item of expense the \$12,000 paid to retiring President Fitch in 1913. I am still of opinion that it is necessary to exclude this payment to President Fitch, from the expenses of 1913. However just the payment may have been as between him and the company, it is to

my mind clearly impossible to admit it as a normal expenditure for that year, and as such an item of expense for which the public should be required to provide in future years. The evidence as to the exact nature of this payment is meagre and unsatisfactory. It is clear, however, that the payment was not a part of the president's salary either for that or any other year, and that it therefore cannot be treated as part of the normal expenses of 1913.

*Adjustments Made in Accounts For 1913.*

Objection is here made to my deductions on account of abnormal expenses for the year of 1913 on the ground that they are too great in that they bring the expense account of 1913 down to the level of the average of 1910-11-12, which the objection assumes was abnormally low.

If the assumption on which this objection is founded were warranted, the alleged inconsistency in my finding would be very palpable, but it is not warranted. That assumption is that the deferred maintenance for which deduction was made in the 1913 accounts accrued in the years 1910-11 and 12, and that the expenses for those years were, therefore, to that extent below normal; but the fact is that that deferred maintenance was not located as accruing in those years, or in any particular years; that those three years (and the five years as regards ballast) were not assumed to be below normal, but on the contrary were assumed to be normal as expressly stated in my finding. The objection is, therefore, not well taken.

*Division of Michigan Passenger Operating Expenses  
Between Interstate and Intrastate.*

Under this head it is objected that the division between inter and intra of expenses of station employees and



station supplies and expenses should be upon the basis of tickets sold instead of upon the basis of the number of passengers carried.

My division upon the basis of the number of passengers traveling inter and intra was so made because I considered that such division best reflected the use made by the two classes of passengers, respectively, of the station facilities. A division on the basis of the number of tickets sold would reflect only the use that is made in the purchasing of tickets which it certainly cannot be claimed constitutes the entire use. I see no reason to change the division that I have made of those expenses; although it is objected to by both parties—the defendants claiming that it should be on the basis of passenger miles made in each service as will appear in the discussion of their objections.

## DISCUSSION OF DEFENDANTS' OBJECTIONS.

### *Objection 1.*

This objection relates to my finding that the complainant is not estopped, by the acceptance of land grant lands by itself or its predecessors in ownership, from questioning the validity of the Michigan passenger rate statute, fixing rates of fare to be charged upon complainant's railroad of two cents per mile for the carriage of passengers.

The objection does not in form call for further consideration by me, and I have nothing to add to the quite full discussion of the subject contained in my findings.

### *Objection 2.*

(Answered in body of report.)

*Objection 3.*

(Answered in body of report.)

*Objection 4.*

(Answered in body of report.)

*Objection 5.*

This is a general objection to the findings of value on the ground that they are too high.

Under it are 33 sub-objections divided into three classes, designated respectively by the letters (a), (b) and (c). These have all been answered in the body of the report, with the exception of numbers 5 (a) (6), 5 (a) (7), 5 (a) (8), 5 (c) (1), 5 (c) (2), 5 (c) (5), 5 (c) (9), 5 (c) (10), 5 (c) (11), 5 (c) (12), 5 (c) (14), 5 (c) (19) and 5 (c) (20), which will, in their order, be answered here:

*Objection 5 (a) (6).*

In asserting that I relied upon testimony of witnesses placing high values and refused to take the testimony of witnesses who fixed lower values, this objection is wholly in error. I am unable to imagine any reason for asserting that I relied on any particular testimony whatsoever, or refused to take any particular testimony. I took and carefully considered all testimony offered, whether it placed high values or low values, and gave to all of it careful and impartial consideration.

In like manner, this objection is in error in asserting that I refused to apply proven tests of the correctness or incorrectness of opinion evidence of value. If there are errors in my valuations, such errors are due to mistakes of judgment, and not to any refusal or failure to consider any part of the testimony bearing on the subject.

*Objection 5 (a) (7).*

The assertion here made that I refused to take into account or be influenced by values as fixed by actual purchases and sales of similar nearby and adjacent lands is in like manner erroneous. In all my valuations, I took into account and endeavored to give due weight to, all the testimony, including that relating to the sales of other lands.

*Objection 5 (a) (8).*

The subject of this objection, viz: clearing and grubbing, was fully discussed by me in connection with my finding on the subject (Schedules 1 and 3). In consequence of this objection, I have carefully reconsidered the subject, but have found no reason for changing the views already expressed.

*Objection 5 (c) (1).*

This objection is to my land valuation as a whole, and in the several counties, but no specific instance of overvaluation is specified in the objection. It is practically a repetition of Objection 5 (a) (5), which is answered in the body of the report, and what is there said is equally applicable here.

*Objection 5 (c) (2).*

This objection is that I have placed too high a value on the trackage rights in streets. I have reconsidered the subject and I see no reason for changing my views, nor do I see what other method of valuation could be adopted than that followed by me and fully explained in my findings.

*Objection 5 (c) (3).*

This objection is well founded. It relates to Schedule 7, "Rails". The amount allowed by me for this item

was erroneous in the respect pointed out in this objection, and it will be corrected accordingly—the correct amount is \$1,170,995, instead of \$1,193,882, and the same is allocated as follows:

Freight	_____	\$ 132,166
Common	_____	1,038,829

*Objection 5 (c) (9).*

This objection is well taken. It refers to Schedule 16 of my valuations, viz, "Side Tracks". By error there was a duplication of ties at switch turnouts to the extent of 1,630 turnouts at \$18 per turnout; but they were valued at 55% condition, not 60%, as stated in the objection.

In correction of this error, I have revised my report by making a deduction of \$16,137, allocated as follows:

Passenger	_____	\$ 168
Freight	_____	10,702
Common	_____	5,267

*Objection 5 (c) (10).*

This objection, which relates to my allowance for engineering on roadway and structures (Schedule 29) is not well founded. It is clear from Mr. Hansel's testimony that the \$20,000 here referred to was not included in his estimate of \$255,000 for engineering on roadway and structures.

*Objection 5 (c) (11).*

This objection relates to my valuation of Schedule 30, "Locomotives". I find this objection to be well taken and have corrected my findings by dividing the value of the work locomotives between passenger and freight on the basis of the assignments of maintenance of way and structure expenses for 1913, and by changing the allocation of locomotive No. 43 from passenger to freight.

*Objection 5 (c) (12).*

This objection relates to my valuations of Schedule 31 "Passenger Train Cars," and it is well taken. The proportion of value attributed by me to the Michigan passenger business is too large in the amount claimed by defendants. The correct amounts are as claimed by them, viz:

Passenger .....	\$248,823.
Common .....	6,464.
<hr/>	
Total .....	\$255,287.

I have corrected my report in this regard.

*Objection 5 (c) (14).*

This objection calls for the rejection of the entire item of contingencies. On a reconsideration of this subject, I have found no reason for changing the views already expressed.

*Objection 5 (c) (19).*

This objection is another one of those that are too general to afford anything specific for consideration or discussion, and what was said in this regard in answer to Objection 5 (a) (5) is equally applicable here, and the answer to the last named objection is in the body of the report.

It should, however, be stated in connection with this objection that as a matter of fact, the amounts allowed by me for depreciation were generally those fixed by the defendants' expert, Mr. Hansel, his figures being taken on all the depreciated schedules except Water Stations and Station Buildings and Fixtures, and on those schedules the differences between Mr. Hansel's allowances and mine were not large. The item of ballast does not

fall within the scope of this objection, but is objected to separately.

*Objection 5 (c) (20).*

This objection is to my allowance for appreciation. In the disposition of the subject made in my findings, I sought diligently to safeguard the rights of both parties, and I then thought and still think that that object was accomplished and that nothing further is called for from me.

*Objection 6.*

(Answered in body of report.)

*Objection 7.*

(Answered in body of report.)

*Objection 8.*

The point raised by this objection refers to my failure to deduct the value of property contributed complainant by the public, and is covered by the principle referred to above under Objection 6 (contained in the body of the report), that the company is entitled to a return upon the value of all property used without regard to the ownership of the property or how it was acquired.

*Objection 9.*

(Answered in body of report.)

*Objection 10.*

(Answered in body of report.)

*Objections 11 and 12.*

(Answered in body of report.)



*Objection 13.*

This objection relates to a discussion of depreciation contained in my report, wherein I had under consideration the claim of the complainant that in using the average expenses of the years 1910 to 1913 inclusive, I should include as expenses an annual depreciation in bridges, trestles, culverts and other structures, with reference to which the complainant had in its accounts as kept included no depreciation charge. I am satisfied with the views there expressed. But the final conclusion at which I arrived was as stated on page 226 of my report, viz: that I could make no allowance on account of depreciation as an expense charge for the reason that complainants have not furnished testimony from which I am able to determine with sufficient definiteness a proper amount for such item.

The objection therefore has no practical application to or bearing on this case.

*Objection 14.*

This objection is misconceived, as I expressly declined to make such finding as is therein described.

*Objection 15.*

I understand that this objection is merely the reservation of a right to object before the court that my deduction from the operating expenses of 1913 to take care of supposed abnormalities therein are not sufficient, and that therefore no further consideration or discussion of the subject by me is here called for.

*Objection 16.*

(Answered in body of report.)

*Objection 17.*

(Answered in body of report.)

*Objection 18.*

I have reconsidered the subject of unearned land increment (so-called) referred to in this objection, and find no reason to change the views on that subject heretofore expressed.

*Objection 19.*

This objection relates to the use of the modified revenue train mile ratio for the division of certain common expenses, and the objections are in addition to those already treated by me under Objection 10. The subjects included in this objection I have so fully treated in my report that I see no occasion for further discussion of them here.

*Objection 20.*

The objection is to so much of my report as finds that there is proof of loss of power in freight engines, due to super-elevation of curves for passenger service, or that any amount can be fixed for the cost of such loss. I have carefully reviewed the testimony on this subject, and it still seems to me that the evidence upon which my finding in this regard was based is substantially without contradiction and fully justifies the finding.

*Objection 21.*

(Answered in body of report.)

*Objection 22.*

(Answered in body of report.)

*Objection 23.*

(Answered in body of report.)

*Objection 24.*

(Answered in body of report.)

*Objection 25.*

This objection calls attention to an error in the exhibits attached to my proposed report, in that while I stated in my report that the expense account "Industrial and Immigration Bureaus" under "Traffic Expenses," was divided on the gross revenue basis, my Exhibit 6 states that the account is divided on a modified train mile ratio and as a fact, in the other exhibits.

The defendants request that the details of the computations, the results of which are found in, or accompany, the proposed report, be made part of the report.

*In Conclusion.*

The above objections are presented with the purpose of saving the defendants' rights of review by the court, while avoiding hypercritical contentions. Our desire is to aid the Master to the utmost in reaching correct results, and the earnest convictions of counsel for the State, in the justice of the case, and in the merits of their contentions, lead them, in the outline hereinbefore set forth to again attempt to present in brief and compact form the points upon which, taken separately or cumulatively, the case may be said to turn.

We bespeak a thoughtful consideration presented and feel certain that if we have made our positions clear, our arguments will not have been made in vain.

GRANT FELLOWS,

Attorney-General.

ROGER L. WYKES,

Of Counsel.

Dated June 7, 1916.

# EXHIBIT 1.

## VALUATION OF THE PROPERTY OF THE

### Duluth, South Shore & Atlantic Railway Company in Michigan

AS OF JUNE 30th, 1913.

Schedule No.	Passenger P. V.	Freight P. V.	Common P. V.	Total P. V.
1. Right of Way and Station Grounds.....	\$ 142,679	\$ 1,025,228	\$ 612,332	\$ 1,780,239
3. Grading.....	393	278,437	2,487,884	2,766,714
5. Bridges, Trestles and Culverts.....		12,949	438,240	451,189
6. Ties.....		27,544	258,918	286,462
7. Rails.....		132,166	1,038,829	1,170,995
8. Track Fastenings.....		19,201	152,492	171,693
9. Frogs, Switches and Crossings.....		62,074	60,045	123,060
10. Ballast.....	941	39,373	570,374	610,247
11. Track Laying and Surfacing.....		29,442	243,262	277,704
12. Fencing.....		6,296	76,900	83,196
13. Crossings, Cattle Guards and Signs.....		913	11,690	12,603
14. Interlocking Signal Apparatus.....			800	800
15. Telegraph and Telephones.....			36,556	37,072
16. Side Tracks.....		516		
17. Station Buildings and Fixtures.....	7,713	391,244	153,818	552,775
19. Shops, Enginehouses and Turntables.....	43,864	38,502	59,538	141,904
20. Shop Machinery and Tools.....		10,961	176,020	186,981
21. Roadway and Construction Tools.....		281	98,987	99,268
22. Water Stations.....			12,332	12,332
23. Fuel Stations.....			72,422	72,422
26. Docks and Wharves { Ore Docks Nos. 4 and 5 Other Docks		845	68,249	69,094
27. Electric Plants.....	715	392,980	24,581	392,980
28. Miscellaneous Structures.....		56,842	8,855	82,138
		16,357	103,367	8,855
Sub Total (1) Schedules 3 to 28.....	\$ 53,626	\$ 1,516,923	\$ 6,160,159	\$ 7,730,708

29. Engineering on Roadway and Structures.....	1,759	50,031	230,310	235,000
30. Locomotives.....	147,377	280,932		428,309
31. Passenger Train Cars.....	248,823		6,464	255,287
32. Freight Train Cars.....		1,116,545		1,116,545
33. Miscellaneous Equipment.....			59,972	59,972
34. Ferries and Steamships.....		210,000		210,000
35. Engineering on Equipment—2% on Schedules 30-33.....	7,924	27,949	1,325	37,202
36. Terminals } (S. M. Un. Depot Co.....	22,006	6,906	11,091	40,003
} N. J. Bridge Co.....			60,271	60,271
Sub Totals (2) Schedules 3-36.....	\$ 481,515	\$ 3,209,286	\$ 6,502,496	\$10,193,297
37. Contingencies.....			400,000	400,000
38. Legal Expenses during construction.....	2,360	15,740	31,900	50,000
39. Organization, Administration and General Expenses.....	5,900	39,350	79,750	125,000
40. Interest during construction.....	3,459	92,982	451,216	547,657
" Taxes.....			100,000	100,000
41. Furniture and Fixtures.....			9,735	9,735
42. Stores and Supplies.....	2,844	5,557	264,410	272,811
43. Working Capital.....			167,107	167,107
Totals Schedules 1-43.....	\$ 638,757	\$ 4,388,143	\$ 8,618,946	\$13,645,846
Appreciation.....		30,000	270,000	300,000
Totals.....	\$ 638,757	\$ 4,418,143	\$ 8,888,946	\$13,945,846
Less Michigan property assigned to Wisconsin.....	102	720	43,086	43,908
Total Michigan Present Value.....	\$ 638,655	\$ 4,417,423	\$ 8,845,860	\$13,901,938

# EXHIBIT 1.

Assignment to Passenger, Intrastate Passenger and Interstate Passenger of the value as of June 30th, 1913,  
of the Complainants Michigan Property.

Schedule No.		Common P. V.	Passenger Prop'n of Common Percent	P. V.
19.	Shops, Enginehouses & Turntables—Assignable to Yard Engines.	\$ 30,392	3.9	\$ 1,205
	Overhead (Int. Schedule 40) 4%	1,235	3.9	48
19.	Shops, Enginehouses & Turntables—Assignable to Road Engines.	145,128	37.08	53,813
	Overhead (Int. Schedule 40) 4%	5,805	37.08	2,152
20.	Shop Machinery and Tools.	98,987	30.22	30,811
	Overhead charges (Int. Sched. 40)	2,969		
21.	Roadway and Construction Tools	12,832		
	Overhead charges (Int. Sched. 40)	384	30.22	3,994
22.	Water Stations	72,422	29.56	
	Overhead charges (Int. Sched. 40)	2,196		22,057
23.	Fuel Stations	68,249	29.56	
	Overhead charges (Int. Sched. 40)	2,730		30,981
42.	Stores and Supplies	264,410	30.22	79,905
43.	Working Capital	167,107	30.22	50,500
	Totals	\$843,219		\$265,466



## SUMMARY.

	Michigan	Michigan Passenger
	Total	
Total Common (page 1).....	\$8,845,860	
Less Common in Schedules 19, 20, 21, 22, 23, 42, 43.....	\$843,219	
" 37 Contingencies .....	400,000	
" 40 Taxes .....	1,343,219	
	<u>\$7,502,641</u>	
Less Pass. Pro. of Soo Bridge (42.03% of \$60,271) (All Interstate).....	\$3,144,356	
	<u>25,259</u>	
	<u>\$3,119,097.</u>	
Add Exclusive Passenger (Page 1).....	638,655	
Add Pass. Pro. of Schedules 19 to 23, 42 and 43 (See above).....	265,466	
Add Pass. Pro. of Schedule 37—Contingencies, 31.47% of \$400,000.....	125,880	
	<u>31,860</u>	
Add Pass. Pro. of Schedule 40—Taxes, 31.86% of \$100,000.....	\$4,180,958	65.58 \$2,741,872 34.42 \$1,439,086
	<u>25,259</u>	<u>25,259</u>
Add. Pass. Pro. of Soo Bridge,.....		\$2,741,872
Total Michigan Passenger.....	<u>\$4,206,217</u>	<u>\$1,464,345</u>

### Passenger Business in Michigan—Year ended June 30th, 1910.

	Total	Intrastate	Interstate
Revenue from Passengers—Intra, 56.39%; Inter., 43.61%, allocated.....	\$834,530.16	\$470,580.29	\$363,949.87
Excess Baggage—Intra., 56.39%; Inter., 43.61% .....	12,717.57	7,171.44	5,546.13
Mail Revenue—" " "	50,284.23	28,659.78	22,164.45
Express Revenue—" " "	36,042.94	20,324.61	15,718.33
Other Pass. Train Rev.—Intra., 56.39%; Inter., 43.61% .....	13,483.54	7,603.37	5,880.17
Milk Revenue on Pass. Trains—Intra. and Inter. allocated.....	218.60	218.60	"
Special Service Train Revenue—" " "	455.50	455.50	"
" Intra., 56.39%; Inter., 43.61%	250.00	140.98	109.02
Storage—Baggage, Intra. and Inter. allocated.....	23.95	23.95	"
*Station and Train Privileges, Intra., 56.39%; Inter., 43.61% .....	436.49	246.14	190.35
*Telegraph Service, Pass. 33.01%—" " "	160.54	90.53	70.01
*Rents of Buildings and Other Property—Allocated to Pass., \$192.00 Com. \$2,833.65; Pass. 33.01%	1,127.39	635.74	491.65
*Miscellaneous Revenue—Pass. 33.01%—Intra., 56.39%; Inter., 43.61%	1,598.38	901.33	697.05
Joint Facility Revenue (Bal. Cr.) .....	980.06	527.59	452.47
	\$952,849.35	\$537,579.85	\$415,269.50
<b>Sleeping Cars { Gross Revenue.....\$25,803.21 Net Revenue.....</b>	<b>7,905.48</b>	<b>4,457.90</b>	<b>3,447.58</b>
<b>{ Expenses .....14,060.06</b>			
<b>Dining Cars { Gross Revenue.....\$26,365.35</b>			
<b>{ Expenses .....30,203.02</b>			
<b>Intra, 56.39%; Inter., 43.61%</b>			
" " " " " " " " " " " "			
Hire of Equipment—	3,846.79	2,169.20	1,677.59
*Interest, Passenger, 33.01%—	1,818.77	1,025.60	793.17
Rents Received (Joint Facility)—	2,964.83	1,671.87	1,292.96
Miscellaneous Income—Pass. 33.01%—	119.90	67.61	52.29
<b>Total Revenue.....</b>	<b>\$969,506.12</b>	<b>\$546,972.03</b>	<b>\$422,533.09</b>

Operating Expenses (Intra, part allocated, part assigned and balance on passenger miles not equated)  
 Rents Paid (Joint Facil.) \$1,037.14 Interstate; balance Intra, 56.39%; Inter, 43.61%  
 Rents Paid (Miscellaneous), Intra, 56.39%; Inter, 43.61%  
 †Taxes

538,852.48  
 8,730.37  
 35.53  
 63,501.39  
 \$611,119.77  
 \$333,438.00  
 \$277,681.77

245,301.76

293,550.73

4,338.21  
 20.03  
 35,529.03

4,392.16  
 15.50  
 27,972.36

Net Income  
 Estimated Loss by application of Act 276  
 Net Return

\$358,385.35  
 \$178,383.42  
 \$180,001.93

\$213,534.03  
 \$105,504.93  
 \$108,029.10

\$144,851.32  
 \$ 72,878.49  
 \$ 71,972.83

\*Telegraph Service, Miscellaneous Revenue, Common Portion of Rents of Bldgs., etc., Interest and Miscellaneous Income, divided between Passenger and Freight on revenue basis.

†Taxes assigned to Passenger on basis of assignment of property to service as shown in Exhibit 1, and to Intra and Inter Pass. on the basis of passenger miles in 1910.

# EXHIBIT 3.

Passenger Business in Michigan—Year ended June 30th, 1911.

	Total	Intrastate	Interstate
Revenue from Passengers—Intra., 61.05%; Inter., 38.95%, allocated.....	\$823,125.81	\$502,511.08	\$320,614.73
Excess Baggage—Intra., 61.05%; Inter., 38.95%.....	10,361.62	6,325.77	4,035.85
Mail Revenue—.....	50,724.30	30,967.19	19,757.11
Express Revenue—.....	35,400.78	21,612.18	13,788.60
Other Pass. Train Rev.—Intra., 61.05%; Inter., 38.95%.....	6,705.21	4,093.52	2,611.69
Milk Revenue on Pass. Trains—Intra. and Inter. allocated.....	364.15	364.15	.....
Special Service Train Revenue—.....	1,692.41	949.11	743.30
Storage—Baggage—.....	23.17	23.17	14.78
Station and Train Privileges—.....	562.84	343.61	219.23
*Telegraph Service—Passenger, 34.23%.....	180.37	110.12	70.25
*Rents of Buildings and Other Property—Allocated to Pass., \$192.00; Com. \$2,775.60. Pass. Pro. of Com. 34.23%.....	.....	.....	.....
*Miscellaneous Revenue—Pass. 34.23%.....	1,142.09	697.25	444.84
Joint Facility Revenue (Bal. Cr.).....	1,621.43	989.88	631.55
	1,115.46	559.78	555.68
	\$933,034.42	\$569,546.81	\$363,487.61
{ Sleeping Cars { Gross Revenue.....\$26,262.23 Net Revenue.....	8,085.67	4,936.30	3,149.37
{ Expenses.....14,548.14			
Outside Operations { Dining Cars { Gross Revenue.....\$38,095.75			
{ Expenses.....31,724.17			
{ Intra., 61.05%; Inter., 38.95%			
Hire of Equipment—.....	1,844.72	1,126.20	718.52
*Interest, Passenger Pro. 34.23%—.....	3,851.10	2,351.10	1,500.00
Rents Received (Joint Facility)—.....			
Passenger, 34.23%—.....	13,859.76	8,461.38	5,398.38
Total Passenger Revenue—Michigan.....	\$960,675.67	\$586,421.79	\$374,253.88

Operating Expenses (Intra, part allocated, part assigned and balance on Passenger Train miles not equated).....

Rents Paid (Joint Facility) \$973.28 Interstate; balance Intra, 61.05%; Inter, 38.95%.....

Rents Paid (Miscellaneous)—Intra, 61.05%; Inter, 38.95%.....

†Taxes.....

584,819.38

14,929.58

33.91

60,601.75

\$660,384.62

339,282.75

8,520.32

20.70

36,433.77

\$384,257.54

\$276,127.08

300,291.05

170,524.11

\$129,766.94

202,164.25

111,293.10

\$ 90,871.15

98,126.80

59,231.01

\$ 38,895.79

Net Income.....

Estimated Loss by application of Act 276.....

Net Return.....

\*Telegraph Service, Miscellaneous Revenue and Common portion of Rents of Buildings, etc., Interest, divided between Passenger and Freight on revenue basis.

†Taxes assigned to Passenger on the basis of assignment of property to that service as shown in Exhibit 1, and to Intra and Inter Pass. on the basis of passenger miles in 1911.

# EXHIBIT 4.

## Passenger Business in Michigan—Year ended June 30th, 1912.

	Total	Intrastate	Interstate
Revenue from Passengers—Intra, 64.94%; Inter, 35.06%, allocated	\$305,532.49	\$523,146.59	\$282,385.90
Excess Baggage—Intra. and Inter. allocated	9,634.27	6,659.58	2,974.69
Mail Revenue—Intra., 64.94%; Inter., 35.06%	53,033.82	34,440.16	18,593.66
Express Revenue—	28,563.36	18,549.05	10,014.31
Other Pass. Train Rev.—	6,793.77	4,411.87	2,381.90
Milk Revenue on Pass. Trains—Intra. and Inter. allocated	423.31	423.31	—
Special Service Train Revenue—	2,701.37	1,478.50	1,222.87
Storage—Baggage—	23.75	15.42	8.33
Station and Train Privileges—	494.54	321.15	173.39
†Telegraph, Passenger, 32.94%—	200.98	130.52	70.46
†Rent's of Buildings and Other Property—Allocated to Pass., \$172.00; Com. \$2,755.55. Pass. Pro. of Com. 32.94%			
†Miscellaneous Revenue—Pass. 32.94%	1,079.68	701.15	378.53
Joint Facility Revenue (Bal. Cr.)	1,504.82	977.23	527.59
	1,115.46	583.44	532.02
Outside Operations { Sleeping Cars { Gross Revenue.....\$26,685.83	\$911,101.62	\$591,837.97	\$319,263.65
{ Dining Cars { Expenses.....17,506.87 Net Revenue.....	3,224.45	2,093.95	1,130.50
Hire of Equipment—	1,312.50	852.34	460.16
†Interest Passenger, 32.94%—	4,024.67	2,613.62	1,411.05
Rents Received (Joint Facility)—	13,566.96	8,810.38	4,756.58
Total Passenger Revenue (Michigan)	\$933,230.20	\$606,208.26	\$327,021.94



Operating Expenses (Intra, part allocated, part assigned, balance on passenger miles not equated)	\$61,697.27	\$68,963.85	\$22,793.42
Rents Paid (Joint Facility) \$601.88 allocated interstate. Balance			
Intra., 64.94%; Inter., 35.06%	7,463.00	4,455.62	3,007.39
Rents Paid (Miscellaneous)—Intra., 64.94%; Inter., 35.06%	34.40	22.34	12.06
*Taxes—Intra, 63.63%; Inter., 36.37%	61,096.10	38,875.45	22,220.65
Net Income	\$670,200.77	\$412,257.25	\$258,033.52
	\$262,939.43	\$193,951.01	\$ 68,088.42
Estimated Loss by application of Act 276	\$174,311.11	\$123,097.97	\$ 51,213.14
Net Return	\$ 88,623.32	\$ 70,853.04	\$ 17,775.28

†Telegraph Service, Miscellaneous Revenue and Common portion of Rents of Buildings, etc., Interest, divided between Passenger and Freight on revenue basis.

\*Taxes assigned to Passenger on the basis of the assignment of property to that service as shown in Exhibit 1, and to Intra and Inter Passenger on the basis of passenger miles in 1912.

# EXHIBIT 5.

## Passenger Business in Michigan—Year ended June 30th, 1913.

	Total	Intrastate	Interstate
Revenue from Passengers—Intra, 66.61%; Inter, 33.39%, allocated.....	\$841,534.76	\$560,539.36	\$280,995.40
Excess Baggage—Intra. and Inter. allocated.....	8,780.75	5,883.92	2,896.83
Mail Revenue—Intra., 66.61%; Inter., 33.39%.....	53,010.24	35,310.12	17,700.12
Express Revenue—“ “ “ “.....	29,776.26	19,333.97	9,942.29
Other Pass. Train Rev.—“ “ “ “.....	7,509.09	5,001.80	2,507.29
Milk Revenue on Pass. Trains—Intra. and Inter. allocated.....	404.80	404.80	
Special Service Train Revenue—Intra., 66.61%; Inter., 33.39%.....	2,970.56	2,520.96	449.60
Storage—Baggage—Station and Train Privileges—“ “ “ “.....	49.20	32.77	16.43
†Telegraph Service, Pass., 31.89%—“ “ “ “.....	496.24	330.55	165.69
†Rents of Buildings and Other Property—Allocated to Pass., \$132.00; Com. \$2,724.00. Pass. Pro. 31.89%; Intra., 66.61%; Inter., 33.39%; (Pass. Pro. of Com. \$868.68).....	218.99	146.87	73.12
†Miscellaneous Rev.—Pass. 31.89%; Intra., 66.61%; Inter., 33.39%.....	1,000.68	666.56	334.12
Joint Facility Revenue (Bal. Cr.).....	1,587.59	1,057.50	530.09
	1,022.46	621.77	400.69
	\$948,361.62	\$632,349.95	\$316,011.67
Outside Operations { Sleeping Cars { Gross Revenue.....\$30,243.11			
{ Expenses.....17,911.30	2,994.20	1,994.44	999.75
Dining Cars { Gross Revenue.....\$34,516.40			
{ Expenses.....43,854.01			
Intra, 66.61%, Inter, 33.39%.....			
“ “ “ “.....			
“ “ “ “.....			
“ “ “ “.....			
Hire of Equipment—Interest—Rents Received (Joint Facility).....	285.17	189.95	95.22
	3,322.93	2,213.40	1,109.53
	7,361.06	4,903.20	2,457.86
	\$943,324.96	\$641,650.94	\$301,674.04

Operating Expenses (Intra, part allocated, part assigned, and balance on passenger miles).....

239,241.85

435,067.10

Less Adjustment for Abnormal Expenses due to Deferred Maintenance.....

14,585.00

27,789.00

\$224,656.85

\$407,278.10

Rents Paid (Joint Facility) \$573.09 Interstate, balance Intra., 66.61%, Inter., 33.39%.....

1,045.01

941.43

Rents Paid (Miscellaneous) All Freight.....

21,100.77

40,203.03

\$246,802.63

\$448,422.56

Net Income.....

\$ 73,871.41

\$193,228.38

Estimated Loss by application of Act 276.....

\$ 50,745.43

\$127,790.65

Net Return.....

\$ 23,125.98

\$ 65,437.73

†Telegraph Service, Miscellaneous Revenue and Common portion of Rents of Buildings, etc., Interest divided between Passenger and Freight on revenue basis.

\*Taxes assigned to Passenger, Intra. Passenger and Inter Passenger on the basis of the assignments of property to those services as shown in Exhibit 1.





# EXHIBIT 6.

Operating Expenses—Years 1910, 1911, 1912, 1913. Method of Division between States.  
Method of Apportionment of Michigan Proportion of Expenses to Passenger and Freight Business.

## TRANSPORTATION EXP.—Contd.

Acct. No.				
74.	Water for Yard Locomotives.....	Actually located	In 1910, 1911 and 1912 3.68% passenger. In	
75.	Lubricants for Yard Locomotives.....	Actually located	1913 3.9% passenger; balance freight	
76.	Other Supplies for Yard Locomotives.....	Actually located	(Thompson's Ratio 13A)	
77.	Operat'g Jt. Yds. and Term. —Dr.....	Actually located	Allocated	
78.	Operat'g Jt. Yds. and Term. —Cr.....	Actually located	See Note 10	
80.	Road Enginemen.....	On revenue locomotive miles	Allocated	
81.	Enginehouse Expenses—Road.....	On revenue locomotive miles	On ratio of engine housings. Thompson's Ratio 7	
82.	Fuel for Road Locomotives.....	See Note 12	Allocated	
83.	Water for Road Locomotives.....	On the ratio of "Fuel for Road Locomotives" Account	On ratio of "Fuel for Road Locomotives" Account	
84.	Lubricants for Road Locomotives.....	On the ratio of "Fuel for Road Locomotives" Account	On ratio of "Fuel for Road Locomotives" Account	
85.	Other Supplies for Road Locomotives.....	On the ratio of "Fuel for Road Locomotives" Account	On ratio of "Fuel for Road Locomotives" Account	
88.	Road Trainmen.....	On revenue train miles	Allocated	
89.	Train Supplies and Expenses.....	On revenue train miles	Allocated	
90.	Interlockers, Block and Other Signals —Operation.....	Actually located	Mich. modified revenue train miles	
91.	Crossing Flagmen and Gatemen.....	Actually located	See Note 13	
93.	Clearing Wrecks.....	Actually located	Allocated.	
94.	Telegraph and Telephone—Operation.....	Actually located	See Note 10	
97.	Stationery and Printing.....	On revenue train miles	See Note 9	
98.	Other Expenses.....	1910, 99%; 1911, 92.6%; 1912, 90.5%; 1913, 53.4% actually located. Balance on revenue train miles	1910, 89.1%; 1911, 99%; 1912, 86%; 1913, 66.6%. Allocated. Balance—see Note 9	
99.	Loss and Damage—Freight.....	On freight train miles	All freight	
100.	Loss and Damage—Baggage.....	Actually located	All passenger	
101.	Damage to Property.....	Actually located	1910, 13%; 1911, 19%; 1912, 18.4%; 1913, none, allocated. Common as stated in Note 10	



102. Damage to Stock on Rt. of Way.....	Actually located	Allocated
103. Injuries to Persons.....	Actually located	1910, 97%; 1911, 91.7%; 1912, 91.3%; 1913, 99%; allocated. Common as stated in Note 10
104. Operating Joint Tracks—Dr. ....	Actually located	1910, Mich. modified rev. train miles; 1911, 79.5%; 1912, 54.9%; 1913, 97.3%; allocated. Common as stated in Note 10
105. Operating Joint Tracks—Cr.....	Actually located	1910, Mich. modified rev. train miles; 1911, 88%; 1912, 83%; 1913, 86.9%; allocated. Common as stated in Note 10
<b>GENERAL EXPENSES:</b>		
106. Salaries and Exps. of Gen. Officers.....	On revenue train miles	See Note 14
107. Salaries and Exps. of Clerks and Attendants.....	On revenue train miles	See Note 14
108. General Office Supplies and Expenses.....	On revenue train miles	See Note 14
109. Law Expenses .....	On revenue train miles	Expense this suit excluded
110. Insurance .....	{ On structures actually located; on equipment, mileage made by each class of equipment insured	1910, 60%; 1911, 52%; 1912, 47.9%; 1913, 50%; allocated. See Note 14.
112. Pensions .....	On revenue train miles	See Note 14
113. Stationery and Printing .....	On revenue train miles	See Note 14
114. Other Expenses .....	On revenue train miles	See Note 14
115. General Administration Joint Tracks and Terminals—Dr. ....	Actually located	Allocated
General Administration Joint Tracks and Terminals—Cr.....	None	
Note 1. Accounts Nos. 1 "Superintendence," 18 "Roadway Tools and Supplies," 20 "Stationery and Printing," 21 "Other Expenses," are divided on percentages arrived at from the totals resulting from the division of accounts Nos. 2 to 14, 16, 17, 19, 22 and 23.		
Note. 2. "Coal Sheds and Trestles," "Water Tanks and Pump Houses," divided between Passenger and Freight on basis of fuel for locomotives (Yard and Road), "Track Scales" allocated to Freight. Station buildings used in common for both passenger and freight business, Marquette shops and storehouses and repairs of all other buildings used commonly in both services divided between passenger and freight on Michigan modified revenue train miles.		
Note 3. The ferry slip dock at St. Ignace, Mich., is the only dock over which any passenger business passes. The cost of repairs to this dock is divided on basis of passenger and freight cars ferried, counting two freight cars equal to one passenger car.		
Note 4. Passenger Facilities and Freight Facilities allocated. Facilities used in common by passenger and freight. Michigan modified revenue train miles.		

# EXHIBIT 6.

## Operating Expenses—Years 1910, 1911, 1912, 1913.

- Note 5. Accounts Nos. 24 "Superintendence," 46 "Shop Machinery and Tools," 48 "Injuries to Persons," 49 "Stationery and Printing," are divided on percentages arrived at from the totals resulting from the division of Accounts 25, 26, 27, 31, 33, 34, 35, 36, 43, 44 and 45.
- Note 6. The cost of repairs to each locomotive was ascertained and apportioned to the various classes of service (Passenger, Freight, Mixed, Switching) according to the number of miles run in each service by each locomotive. The cost of repairs in each class of service was divided between states on basis of locomotive miles of like class in each state. 25% "Mixed" and 3.68% of "Switching" locomotive cost in Michigan was assigned to Passenger.
- Note 7. To Passenger, all depreciation computed on passenger locomotives and 3.68% of depreciation computed on switching locomotives. Balance to Freight.
- Note 8. Of the total Michigan cost there was first assigned to Freight: for 1910-12.51%, 1911-12.49%, 1912-12.59% and 1913-12.25%, being the proportion of the total cost attributable to the use of the work equipment in maintaining the exclusive freight tracks. The percentage used for each year is the percentage that the cost of maintaining the exclusive freight tracks is of the total cost of Maintenance of Way and Structures in the same year. The remainder of the cost being common is divided on Mich. modified revenue train miles.
- Note 9. Accounts Nos. 61 "Superintendence," 97 "Stationery and Printing," and common portion of 98 "Other Expenses," divided on percentages arrived at from the totals resulting from the division of all other "Transportation Expenses" Accounts.
- Note 10. The common portion of Accounts Nos. 62, 63, 78, 94, 101, 104 and 105 divided between passenger and freight on basis of Mich. Revenue Train Miles including switching as follows:

	1910 Miles	1911 Miles	1912 Miles	1913 Miles
Rev. Frt. Train Miles (incl. ore to Marq. Docks)	907,625	819,900	801,359	865,096
Frt. Road Switching at 6 miles per hour	193,068	193,068	193,068	193,068
Frt. Yard Switching	333,666	333,666	333,666	333,666
Total Freight	1,434,359	1,346,634	1,328,093	1,391,830
Rev. Pass. Train Miles	750,263	765,460	733,828	766,394
Pass. Yard Switching	13,541	13,541	13,541	13,541
Total Passenger	763,804	779,001	747,369	779,935
Total	2,198,163	2,125,635	2,075,462	2,171,765

Note 11.

The pay-rolls for June of each year were taken as being fair average for the year. Employees engaged wholly in passenger service were assigned to "passenger." Those in joint-passenger and freight service to "Common", divided between passenger and freight as stated in Note 10. The resulting percentages were applied to the total of the pay-rolls for the corresponding year. In order to test the correctness of this method, the pay-rolls for the entire year 1911 were divided in the same way, and the result differed but \$26.50 in the amount charged to passenger cost from that obtained by dividing the rolls for the month of June, 1911, and multiplying the result by twelve.

Note 12. Record of cost of fuel to each locomotive is kept and apportioned each month to the various classes of service according to miles run in each service by each locomotive. The cost in each class of service divided between states on basis of locomotive miles of like class in each state.

Note 13. On ratio derived from combination Thompson's Ratio 13A and Complainant's Michigan Revenue Train Mile Ratio.

13 A	1910		1911		1912		1913	
	Pass.	Frt.	Pass.	Frt.	Pass.	Frt.	Pass.	Frt.
Rev. T. Mile.	3.68%	96.32%	3.68	96.32	3.68	96.32	3.90	96.32
	45.22	54.78	48.28	51.72	47.80	52.20	46.98	53.02
	48.90	151.10	51.96	148.04	51.48	148.52	50.88	149.34
	24.45%		25.98%		25.74%		25.44%	

Note 14. The common expenses divided on percentages arrived at from the totals resulting from the division of "Maintenance of Way and Structures," "Maintenance of Equipment," "Traffic Expenses," and "Transportation Expenses."

Note 15. Of the total Maintenance of Way and Structures expenses, those portions thereof which represent the cost of maintenance of exclusive freight and exclusive passenger tracks, have been separately assigned to the respective services, as follows: It is established by the weight of the evidence in this case that the cost of maintenance of industrial spurs is not to exceed \$300 per mile, and the cost of Maintenance of mine branches is not to exceed \$375 a mile, and that on complainant's road the cost of maintenance of side tracks is not more than one-third of the cost of maintenance of main line tracks.

Main Line	Common track		Miles	
	Exclusive freight track		Miles	
Side Tracks				
Freight and Ore		divided by 3 =		
Passenger		divided by 3 =		
Common		divided by 3 =		
			413.77	422.23
			8.46	
				31.58
				.63
				12.72
				<u>467.16</u>

Total Main Line and equated side tracks

EXHIBIT 6.

Operating Expenses—Years 1910, 1911, 1912, 1913.

Industrial Branches	34.66 miles at \$300 per mile	\$ 10,398.00
Mine	21.68 miles at \$375 per mile	\$ 8,130.00
Cost of maintenance of Industrial and Mine Branches (All Freight)		\$ 18,528.00
Total Cost of Maintenance of Way and Structures, Mich. 1913	\$560,534.24	
Less deferred Maintenance	102,148.00	\$458,386.24
Less cost of maintenance of Industrial and Mine Branches		18,528.00
Cost of maintenance of Main Line and Side Tracks (477.16 sq. Miles)		\$439,858.24
Cost of maintenance of Main Line and Side Tracks per mile		940.35
Cost of Maintenance of Freight and Ore Side Tracks 31.58 mi. at \$940.35 per mile		29,696.25
Cost of maintenance of Industrial and Mine Branches		18,528.00
Cost of maintenance of Main Line exclusive of freight track 8.46 mi. at \$940.35 per mile		7,955.36
Cost of maintenance of exclusive freight tracks		56,179.61
Cost of maintenance of exclusive passenger tracks .63 mi. at \$940.35 per mile		592.42

The cost of maintenance of exclusive freight and exclusive passenger tracks in the years 1910, 1911, and 1912 was determined in the manner shown above for 1913, using the following:

	—1910—		—1911—		—1912—	
	Miles	Cost per mi.	Miles	Cost per mi.	Miles	Cost per mi.
Industrial Branches	28.25	\$300	27.34	\$300	38.88	\$300
Mine Branches	22.00	\$375	22.00	\$375	21.68	\$375
Side Tracks:						
Freight and Ore	99.24		99.24		95.04	
Passenger	.77		.77		.92	
Common	32.99		32.99		35.60	
Total cost of Maintenance of Way and Structures	\$422,748.02		\$416,872.21		\$453,865.03	

**EXHIBIT 7.**

## SUMMARY OF MICHIGAN PASSENGER BUSINESS.

FISCAL YEAR 1913—

Net Return, Exhibit 5 (Mail and Express included)	88,563
Mail and Express, Gross Revenue, Exhibit 5	82,786
Mail and Express, Operating Expenses	69,815
Mail and Express, Taxes	6,737

Mail and Express, Total Expenses and Taxes.....	\$ 76,552
Mail and Express Net Return.....	6,234
Passenger Net Return (Mail and Express excluded).....	82,329

Michigan Passenger Valuation, including Mail and Express, Exhibit 1	\$4,206,217
Mail and Express Valuation, Michigan	462,292
<b>Total</b>	

Michigan Passenger Valuation, Mail and Express excluded.....	\$3,743,925
--------------------------------------------------------------	-------------

## Fiscal Years 1910 to 1913, Inclusive--

1910	Passenger Net Return, Mail and Express included, Exhibit 2	\$ 180,002
1911	" " " " " 3	129,766
1912	" " " " " 4	88,628
1913	" " " " " 5	88,564

Total 1910 to 1913, inclusive,	"	"	\$ 486,960
Mail and Express Gross Revenue, 1910 to 1913, incl., Exhibits 2, 3, 4, 5			337,376
Mail and Express Operating Expenses, 1910 to 1913, inclusive			257,544
Mail and Express Taxes—1910 to 1913, inclusive			27,090

Mail and Express Expenses and Taxes, 1910 to 1913, inclusive.....	\$ 284,634
Mail and Express Net Revenue, 1910 to 1913, inclusive.....	\$ 52,742
Passenger Net Return, Mail and Express, excluded, 1910 to 1913, incl.....	\$ 434,218
Average one year.....	\$ 108,554

Michigan	
Intrastate	Interstate
\$ 65,438	\$ 23,125
55,144	27,642
46,575	23,240
4,418	2,319
\$ 50,993	\$ 25,559
4,151	2,083
61,287	21,042
Intrastate	Interstate
\$2,741,872	\$1,464,345
391,341	160,951
\$2,440,531	\$1,303,394

Intrastate	\$ 108,029	\$ 71,973
	90,871	38,895
	70,853	17,775
	65,438	23,126
	\$ 335,191	\$ 151,769
	209,696	127,680
	169,495	88,049
	16,609	10,481
	\$ 186,104	\$ 98,530
	\$ 23,592	\$ 29,150
	\$ 311,699	\$ 122,619
	\$ 77,899	\$ 30,655

# EXHIBIT 8.

## FREIGHT BUSINESS IN MICHIGAN.

### FISCAL YEAR 1913—

	Total
Freight Revenue	\$2,042,286
Operating Expenses (Less adjustment for abnormal expenses due to deferred maintenance)	\$1,486,067
Rents Paid (Joint Facilities)	8,486
Hire of Equipment	45,454
Rents Paid, Miscellaneous	76
Taxes	139,269
Total Freight Expenses, Rents and Taxes	\$1,679,352
1913 Net Income	\$ 362,934

Intrastate	Interstate
\$ 638,887	\$1,403,399
\$ 509,026	\$ 977,041
2,140	6,346
16,568	28,886
28	48
35,346	103,923
\$ 563,108	\$1,116,244
\$ 75,779	\$ 287,155

486

### FISCAL YEAR 1912—

	Total
Freight Revenue	\$1,878,856
Operating Expenses	\$1,376,680
Rents Paid (Joint Facility)	7,807
Rents Paid, Miscellaneous	251
Taxes	138,802
Total Expenses, Rents and Taxes	\$1,522,540
1912 Net Income	\$ 356,316
Net Income, Freight, 1912 and 1913	\$ 719,250
Net Income, Freight, Average 1 year	\$ 369,625

Intrastate	Interstate
\$ 556,994	\$1,821,862
\$ 434,903	\$ 940,777
2,850	4,957
92	159
35,228	103,574
\$ 473,073	\$1,049,467
\$ 83,921	\$ 272,395
\$ 159,700	\$ 559,550
\$ 79,850	\$ 279,775



## MICHIGAN VALUATION, FREIGHT—1913

Exclusive Freight, Ex. 1, p. 1.....	\$4,417,423
Frt. pro. of Common other than in Schedule 19 to 23, 42, 43, 37 and 40 (58.09% of \$7,502,641).....	4,358,285
Frt. pro. of Common in Schedules 19, 20, 21, 22, 23, 42, 43— Total \$843,219.....	577,753
(Ex. 1, p. 2) Less Pass.....	265,466
Frt. pro. of 37 Cont. 68.53% of \$400,000.....	274,120
Frt. pro. of 40 Taxes 68.14% of \$100,000.....	68,140
	<u>\$9,695,721</u>

## ASSIGNMENT TO INTRASTATE AND INTERSTATE.

	Total	Intrastate	Interstate
Freight pro. of Soo Bridge property (All inter.) 57.97% of \$60,271.....	\$ 35,012	.....	\$ 35,012
Marquette Ore Docks (all inter.).....	392,980	.....	392,980
Remainder of Freight Valuation.....	\$9,267,729	26.48 %	73.52 %
	<u>\$9,695,721</u>	<u>\$2,454,095</u>	<u>\$7,241,626</u>

# OPERATING EXPENSES IN MICHIGAN OF THE

## Duluth, South Shore & Atlantic Railway Company

for the Fiscal Year 1910 and the portion thereof assigned to the Passenger Business.

### MAINTENANCE OF WAY AND STRUCTURES

Acct. No.	Total Op. Exps. Mich.	Allocated or definitely assigned to Pass.	Common Pass. & Frt.	Per Cent.	Pro. of Com. assigned to Pass.	Total Michigan Passenger
1	\$ 14,087.34	.....	\$ 14,027.34	38.35%	\$ 5,365.46	\$ 5,365.46
2	2,076.01	.....	2,076.01	40.45%	839.75	839.75
3	71,063.44	.....	71,063.44	40.45%	28,745.16	28,745.16
4	14,466.96	.....	14,466.96	40.45%	5,851.89	5,851.89
5	27,335.84	.....	27,335.84	40.45%	11,067.35	11,067.35
6	200,665.44	.....	200,665.44	40.45%	81,169.17	81,169.17
7	26,626.99	.....	26,626.99	40.45%	10,770.62	10,770.62
8	12,869.71	.....	12,869.71	40.45%	5,205.80	5,205.80
9	177.66	.....	177.66	40.45%	71.86	71.86
10	5,856.78	.....	5,856.78	40.45%	2,369.07	2,369.07
11	401.93	.....	401.93	40.45%	162.58	162.58
12	265.54	.....	265.54	40.45%	107.41	107.41
13	2,418.65	.....	2,418.65	40.45%	978.34	978.34
14	23,959.88	.....	23,959.88	40.45%	9,609.07	9,609.07
15	14,473.13	847.27	20,231.00	Spl.	7,161.80	7,161.80
16	4,586.70	.....	4,586.70	Spl.	148.35	148.35
17	910.40	.....	910.40	38.25%	1,754.41	1,754.41
18	399.78	.....	399.78	40.45%	242.05	242.05
19	11.79	.....	11.79	38.25%	152.92	152.92
20	9,203.87	.....	9,203.87	38.25%	4.51	4.51
21	9,139.82	2,399.79	27.64	40.45%	11.18	11.18
22	.....	.....	9,139.82	40.45%	3,697.06	3,697.06
23	.....	.....	.....	.....	.....	.....
	\$ 422,748.08	\$ 3,247.06	\$395,810.70	.....	\$158,472.62	\$161,719.68

Changes made by allocating  
cost of maint. of exclusive  
frt. and pass. tracks.—Add  
Deduct

2,094.88

20,311.14

## MAINTENANCE OF EQUIPMENT

24	9,135.95	\$22,148.63	9,135.95	21.24%	1,940.48	1,940.48
25	85,857.06					22,148.63
27	15,196.91	5,040.64				5,040.64
31	26,776.00	26,776.00				26,776.00
33	5,671.81	5,671.81				5,671.81
34	102,653.44					
35	6,011.53					
36	42,616.14					
43	4,192.76		3,668.25	40.45%	1,483.81	1,483.81
44	35.69		31.28	40.45%	12.65	12.65
45	1,832.27		1,603.06	40.45%	648.43	648.43
46	6,517.21		6,517.21	21.24%	1,384.25	1,384.25
48	589.49		267.99	21.24%	56.92	56.92
49	639.45		639.45	21.24%	135.82	135.82
51	13.49	6.06				6.06
		\$59,643.14	\$ 21,863.18		\$ 5,602.36	\$ 65,305.50

## TRAFFIC EXPENSES

53	30,075.70	12,572.88				12,572.88
54	46,686.80	33,966.43				33,966.43
55	3,624.56	3,573.72	29.23	40.45%	11.82	3,585.54
56	200.78	8.53				8.53
57	442.55					
59	9,016.51	3,230.56	649.45	40.45%	262.70	3,493.26
	\$ 90,046.90	\$53,352.12	\$ 678.68		\$274.52	\$ 53,626.64

\* Red.



101	1,899.38	1,643.30	34.7 %	570.23	570.23
102	143.40	.....	.....	.....	143.40
103	9,523.85	268.50	34.7 %	93.17	2,751.67
104	82.86	88.86	34.7 %	30.83	30.83
105	* 3,044.86	867.05	34.7 %	300.87	300.87
	\$1,022,935.20	\$145,906.26		\$ 47,702.52	\$259,890.79

## GENERAL EXPENSES

106	19,399.65	19,399.65	28.22%	5,474.58	5,474.58
107	26,931.73	26,931.73	28.22%	7,600.13	7,600.13
108	2,592.07	2,592.07	28.22%	731.48	731.48
109	5,186.07	5,186.07	28.22%	1,463.51	1,463.51
110	4,049.56	2,772.99	28.22%	782.54	1,228.92
112	288.11	288.11	28.22%	81.30	81.30
113	3,978.73	3,978.73	28.22%	1,122.80	1,122.80
114	2,667.46	2,321.49	28.22%	655.12	655.12
115	118.04	.....	.....	36.91	36.91
	\$ 65,811.42	\$ 63,470.84		\$17,911.46	\$ 18,394.75

## SUMMARY—1910.

	Total Opr. Exp. Mich.	Allocated or definitely assigned to Pass.	Common Pass. & Freight	Pro. of Com. assigned to Passenger	Total Michigan Passenger	Total Michigan Freight
Maint. of Way and Structures.....	\$ 422,748.02	\$ 3,473.32	\$393,810.70	\$138,161.48	\$141,634.80	
Maintenance of Equipment.....	307,728.19	59,643.14	21,863.18	5,662.36	65,305.50	
Traffic Expenses.....	90,046.90	53,352.12	678.68	274.52	53,626.04	
Transportation Expenses.....	1,023,935.20	212,188.27	143,905.26	47,702.52	259,890.79	
General Expenses.....	65,811.42	483.29	63,470.84	17,911.46	18,394.75	
TOTAL .....	\$1,910,269.73	\$389,140.14	\$627,728.66	\$209,712.34	\$538,852.48	\$1,371,417.25

\* Red.

# OPERATING EXPENSES IN MICHIGAN OF THE Duluth, South Shore & Atlantic Railway Company

for the Fiscal Year 1911 and the proportion thereof assigned to the Passenger Business.

## MAINTENANCE OF WAY AND STRUCTURES

Acct. No.	Total Opr. Exps. Mich.	Allocated or definitely assigned to Pass.	Common Pass. & Frt.	Per Cent.	Pro. of Com. assigned to Pass.	Total Michigan Passenger
1	\$ 13,976.58	.....	\$ 13,976.58	38.45%	\$ 5,374.00	\$ 5,374.00
2	1,992.19	.....	1,992.19	42.94%	855.45	855.45
3	43,886.18	.....	43,886.18	42.94%	18,844.72	18,844.72
4	7,019.21	.....	7,019.21	42.94%	3,014.04	3,014.04
5	23,431.32	.....	23,431.32	42.94%	10,061.41	10,061.41
6	192,083.37	.....	192,083.37	42.94%	82,480.60	82,480.60
7	37,642.68	.....	37,642.68	42.94%	16,163.77	16,163.77
9	12,481.01	.....	12,481.01	42.94%	5,359.35	5,359.35
10	656.11	.....	656.11	42.94%	281.73	281.73
11	6,162.52	.....	6,162.52	42.94%	2,646.19	2,646.19
12	270.74	.....	270.74	42.94%	116.26	116.26
13	83.45	.....	83.45	42.94%	35.83	35.83
14	2,541.69	.....	2,541.69	42.94%	1,091.40	1,091.40
16	34,304.27	.....	32,281.33	42.94%	11,611.54	12,558.93
17	34,665.62	.....	37.34	Spl.	6.58	6.58
18	4,451.02	.....	4,451.02	Spl.	1,711.42	1,711.42
19	584.50	.....	396.00	38.45%	170.04	320.04
20	400.78	.....	400.78	42.94%	154.10	154.10
21	132.92	.....	132.92	38.45%	51.10	51.10
22	11,312.64	.....	1.69	38.45%	.73	3,962.31
23	* 11,206.59	.....	11,206.59	42.94%	4,812.11	4,812.11
	\$ 5,058.97	.....	\$368,721.54	.....	\$155,218.15	\$160,277.12
Changes made by allocating cost of exclusive freight and pass. tracks.—Add						
	293.14	.....	.....	.....	20,119.36	19,896.22
Deduct						
	.....	.....	.....	.....	\$136,098.70	\$140,380.90
TOTAL.....						
	\$ 416,872.21	\$ 5,352.11	\$368,721.54	.....	.....	.....



# MAINTENANCE OF EQUIPMENT

24	9,108.98	9,108.98	25.71%	2,341.92	2,341.92
25	84,530.74	29,195.44	.....	.....	29,195.44
27	15,580.40	5,139.83	.....	.....	5,139.83
31	29,549.75	29,549.75	.....	.....	29,549.75
33	5,712.26	5,712.26	.....	.....	5,712.26
34	90,195.41	.....	.....	.....	.....
35	505.91	.....	.....	.....	.....
36	47,030.48	.....	.....	.....	.....
43	3,382.14	2,959.71	42.94%	1,270.90	1,270.90
44	18.91	16.55	42.94%	7.11	7.11
45	1,796.83	1,572.41	42.94%	675.19	675.19
46	10,334.04	10,334.04	25.71%	2,656.88	2,656.88
48	338.23	237.23	25.71%	60.99	123.49
49	804.71	804.71	25.71%	206.89	206.89
50	19.50	19.50	25.71%	5.01	5.01
51	45.85	12.20	.....	.....	12.20
		\$ 69,571.98	.....	\$ 7,224.89	\$ 76,896.87

493

## TRAFFIC EXPENSES

53	32,660.69	13,319.60	.....	.....	13,319.60
54	49,113.21	37,170.83	.....	.....	37,170.83
55	6,568.30	6,520.56	.....	.....	6,520.56
56	174.48	10.91	.....	.....	10.91
57	450.54	.....	.....	.....	.....
58	247.48	247.48	34.23%	84.71	84.71
59	8,816.51	4,010.01	.....	.....	4,010.01
60	308.13	308.13	.....	.....	308.13
		\$ 51,340.04	.....	\$ 84.71	\$ 61,424.75

\* Red.



1,092.04	1,217.04
706.90	706.90
242.83	242.83
74.07	74.07
656.89	656.89
	<u>\$285,464.46</u>

1,092.04	1,092.04
9.90	9.90
198.83	198.83
37.16	37.16
297.94	297.94
	<u>\$ 49,705.71</u>

36.65%	36.65%
36.65%	36.65%
36.65%	36.65%
36.65%	36.65%
36.65%	36.65%
	.....
	<u>\$145,207.33</u>

2,979.65	2,979.65
27.00	27.00
542.50	542.50
101.40	101.40
812.94	812.94
	<u>\$235,778.75</u>

125.00	125.00
697.00	697.00
44.00	44.00
36.91	36.91
358.95	358.95
	<u>\$235,778.75</u>

3,687.13	3,687.13
778.55	778.55
7,592.58	7,592.58
217.16	217.16
* 3,698.74	3,698.74
	<u>\$1,019,035.75</u>

## GENERAL EXPENSES

106	20,776.66	.....	20,776.66
107	27,977.95	.....	27,977.95
108	2,435.43	.....	2,435.43
109	4,988.48	.....	4,988.48
110	3,111.95	.....	3,111.95
111	361.94	.....	361.94
112	98.95	.....	98.95
113	4,337.28	.....	4,337.28
114	2,288.41	.....	2,288.41
115	131.32	.....	131.32
			<u>\$ 68,146.43</u>

6,395.06	6,395.06
8,611.61	8,611.61
749.63	749.63
1,535.45	1,535.45
1,230.29	1,230.29
30.46	30.46
1,335.01	1,335.01
709.08	709.08
36.81	36.81
	<u>\$ 20,632.40</u>

6,395.06	6,395.06
8,611.61	8,611.61
749.63	749.63
1,535.45	1,535.45
868.35	868.35
30.46	30.46
1,335.01	1,335.01
702.28	702.28
.....	.....
	<u>\$ 20,227.85</u>

30.78%	30.78%
30.78%	30.78%
30.78%	30.78%
30.78%	30.78%
30.78%	30.78%
30.78%	30.78%
30.78%	30.78%
.....	.....
	<u>\$ 65,717.50</u>

20,776.66	20,776.66
27,977.95	27,977.95
2,435.43	2,435.43
4,988.48	4,988.48
2,821.14	2,821.14
98.95	98.95
4,337.28	4,337.28
2,281.61	2,281.61
.....	.....
	<u>\$ 65,717.50</u>

## SUMMARY—1911.

	Total Opr. Exp. Mich.	Allocated or definitely assigned to Pass.	Common Pass. & Freight	Pro. of Com. assigned to Passenger	Total Michigan Passenger	Total Michigan Freight
Maint. of Way and Structures.....	\$ 416,872.21	\$ 5,282.11	\$368,721.54	\$135,098.79	\$140,380.90	
Maintenance of Equipment.....	298,954.14	69,671.98	25,033.13	7,224.89	76,896.87	
Traffic Expenses .....	98,339.34	61,340.04	247.48	84.71	61,424.75	
Transportation Expenses .....	1,019,035.75	235,778.75	145,207.33	49,705.71	285,484.46	
General Expenses .....	68,146.43	404.55	65,717.50	20,227.85	20,632.40	
TOTAL .....	\$1,901,347.87	\$372,477.43	\$604,946.98	\$212,341.95	\$584,819.38	\$1,316,528.49

\* Red.

# OPERATING EXPENSES IN MICHIGAN OF THE

## Duluth, South Shore & Atlantic Railway Company

for the Fiscal Year 1912 and the portion thereof assigned to the Passenger Business.

### MAINTENANCE OF WAY AND STRUCTURES

Acct. No.	Total Opr. Exps. Mich.	Allocated or definitely assigned to Pass.	Common Pass. & Frt.	Per Cent.	Pro. of Com. assigned to Pass.	Total Michigan Passenger
1	\$ 13,816.83	.....	\$ 13,816.83	37.70%	\$ 5,208.94	\$ 5,208.94
2	5,959.57	.....	5,959.57	42.36%	2,524.47	2,524.47
3	54,976.92	.....	53,976.92	42.36%	22,864.62	22,864.62
4	14,957.23	.....	14,957.23	42.36%	6,335.88	6,335.88
5	23,875.87	.....	23,875.87	42.36%	10,113.82	10,113.82
6	220,790.13	.....	220,790.13	42.36%	93,526.70	93,526.70
7	29,098.64	.....	29,098.64	42.36%	12,326.18	12,326.18
9	11,380.05	.....	11,380.05	42.36%	4,820.84	4,820.84
10	39.66	.....	39.66	42.36%	16.80	16.80
11	6,337.38	.....	6,337.38	42.36%	2,684.51	2,684.51
12	626.44	.....	626.44	42.36%	265.36	265.36
13	239.50	.....	239.50	42.36%	101.45	101.45
14	2,341.35	.....	2,341.35	42.36%	991.80	991.80
16	21,227.19	.....	17,601.27	Spl.	6,957.31	8,077.64
17	44,036.66	1,120.33	8,866.92	Spl.	2,295.47	2,295.47
18	4,802.23	.....	4,802.23	37.70%	1,810.44	1,810.44
19	437.65	.....	365.65	42.36%	154.89	154.89
20	351.77	.....	351.77	37.70%	143.93	143.93
21	116.33	.....	116.33	37.70%	43.86	43.86
22	10,644.41	1,411.42	362.46	42.36%	153.54	1,504.96
23	* 11,211.28	.....	11,211.28	.....	4,749.00	4,749.00
		\$ 2,531.75	\$404,725.52	.....	\$168,591.72	\$171,123.47
Changes made by allocating cost of maint. of exclusive freight and pass. tracks—Add						
		289.70	.....	.....	21,604.34	.....
		\$ 2,820.45	\$404,725.52	.....	\$146,927.38	\$149,747.83
TOTAL.....\$ 453,865.03						

## MAINTENANCE OF EQUIPMENT

24	9,379.61	9,379.61	24.16%	2,266.11	2,266.11
25	80,243.16	26,166.91	.....	.....	26,166.91
26	45.52	45.52	.....	.....	45.52
27	15,513.79	5,438.51	.....	.....	5,438.51
31	27,916.92	27,916.92	.....	.....	27,916.92
33	5,779.44	5,779.44	.....	.....	5,779.44
34	98,793.56	.....	.....	.....	.....
35	42.83	.....	.....	.....	.....
36	46,971.09	.....	.....	.....	.....
43	7,034.70	6,149.03	42.36%	2,604.73	2,604.73
44	21.80	19.06	42.36%	8.07	8.07
45	1,832.54	1,601.82	42.36%	678.53	678.53
46	7,807.10	7,807.10	24.16%	1,886.20	1,886.20
48	348.36	328.61	24.16%	79.39	79.39
49	741.75	741.75	24.16%	179.21	179.21
50	4.92	4.92	24.16%	1.19	1.19
	\$ 302,301.43	\$ 65,347.30	.....	\$ 7,703.43	\$ 73,050.73

## TRAFFIC EXPENSES

53	29,920.65	11,918.97	.....	.....	11,918.97
54	50,929.69	37,811.18	.....	.....	37,811.18
55	4,043.35	4,006.66	.....	.....	4,006.66
56	243.86	9.50	.....	.....	9.50
57	393.84	.....	.....	.....	.....
58	4,419.16	.....	.....	.....	.....
59	9,971.79	2,963.18	.....	.....	2,963.18
	\$ 99,922.34	\$ 56,709.49	.....	\$ 1,455.07	\$ 58,165.16

\* Red.

## TRANSPORTATION EXPENSES

Acct. No.	Total Opr. Exps. Mich.	Allocated or definitely assigned to Pass.	Common Pass. & Frt.	Per Cent.	Pro. of Com. assigned to Pass.	Total Michigan Passenger
61	15,375.60	.....	15,375.60	28.52%	4,385.12	4,385.12
62	13,716.88	.....	13,716.88	36.01%	4,939.45	4,939.45
63	135,512.09	11,095.41	62,228.35	36.01%	22,408.43	33,503.84
64	1,330.63	.....	.....	.....	.....	.....
65	41,669.47	.....	.....	.....	.....	.....
66	9,376.13	.....	9,376.13	24.72%	2,317.78	2,317.78
67	4,734.15	174.22	.....	.....	.....	174.22
68	49,218.70	1,811.25	.....	.....	.....	1,811.25
69	4,671.15	171.90	.....	.....	.....	171.90
70	1,034.65	38.08	.....	.....	.....	38.08
71	32,270.85	1,187.57	.....	.....	.....	1,187.57
72	13,664.42	502.85	.....	.....	.....	502.85
73	28,685.42	1,055.62	.....	.....	.....	1,055.62
74	1,264.39	46.53	.....	.....	.....	46.53
75	314.71	11.58	.....	.....	.....	11.58
76	618.41	22.75	.....	.....	.....	22.75
77	17,070.25	5,607.15	.....	.....	.....	5,607.15
78	* 11,861.01	.....	4,033.58	36.01%	1,452.49	1,452.49
80	141,793.02	55,286.05	.....	.....	.....	55,286.05
81	34,940.93	.....	34,940.93	37.34%	13,046.94	13,046.94
82	263,415.38	90,525.30	.....	.....	.....	90,525.30
83	11,317.67	3,889.01	.....	.....	.....	3,889.01
84	2,361.38	811.42	.....	.....	.....	811.42
85	3,272.30	1,124.44	.....	.....	.....	1,124.44
88	169,657.87	52,275.23	.....	.....	.....	52,275.23
89	25,252.19	19,686.79	.....	.....	.....	19,686.79
90	25.52	.....	25.52	42.36%	10.81	10.81
91	8,717.83	.....	7,603.98	25.74%	1,937.26	1,937.26
93	2,559.21	185.47	.....	.....	.....	185.47



94	143.32	36.01%	143.32	51.61
97	9,548.32	28.52%	9,548.32	2,723.16
98	480.40	1.38%	66.01	36.05
99	6,080.29	17.22%	.....	.....
100	191.60	.....	.....	191.60
101	520.10	.....	125.00	212.41
102	520.10	.....	.....	297.01
103	8,956.48	.....	.....	2,301.66
104	476.42	.....	780.86	106.30
105	* 3,893.69	.....	65.75	1,080.88
		.....	662.16	238.44
		.....		
	\$1,045,072.41	.....	\$149,801.91	\$297,953.86
		.....		
	\$247,255.09	.....		

## GENERAL EXPENSES

106	21,377.03	30.45%	21,377.03	6,509.31
107	30,932.08	.....	30,932.08	9,424.91
108	2,705.63	.....	2,705.63	823.86
109	7,183.32	.....	7,183.32	2,178.32
Cost of Suit	19,083.35	.....	.....	.....
110	5,959.85	.....	3,103.92	1,419.42
112	385.26	.....	385.26	117.31
113	4,781.28	.....	4,781.28	1,455.90
114	2,664.39	.....	2,676.89	815.11
115	117.28	.....	.....	26.55
		.....		
	\$ 93,209.47	.....	\$ 73,165.41	\$ 22,779.69

## SUMMARY—1912

	Total Opr. Exp. Mich.	Allocated or definitely assigned to Pass.	Common Pass. & Freight	Pro. of Com. assigned to Passenger	Total Michigan Passenger	Total Michigan - Freight
Maint. of Way and Structures.....	\$ 453,865.03	\$ 2,820.45	\$404,725.52	\$146,927.38	\$149,747.83	
Maintenance of Equipment.....	302,391.43	63,347.30	26,031.90	7,703.43	73,050.73	
Traffic Expenses.....	99,922.34	56,709.49	4,419.16	1,455.67	58,165.16	
Transportation Expenses.....	1,045,072.41	247,255.09	149,801.91	50,698.77	297,953.86	
General Expenses.....	95,209.47	500.83	73,165.41	22,278.86	22,779.69	
	\$1,996,460.68	\$372,633.16	\$658,143.90	\$229,064.11	\$601,697.27	\$1,373,680.06

\* Red.

# OPERATING EXPENSES IN MICHIGAN OF THE Duluth, South Shore & Atlantic Railway Company for the Fiscal Year 1913 and the portion thereof assigned to the Passenger Business.

## MAINTENANCE OF WAY AND STRUCTURES

Acct. No.	Total Opt. Exps. Mich.	Allocated or definitely assigned to Pass.	Common Pass. & Frt.	Per Cent.	Pro. of Com. assigned to Pass.	Total Michigan Passenger
1	\$ 26,585.00	.....	\$ 26,585.00	38.46%	\$ 10,224.59	\$ 10,224.59
2	25,938.38	.....	25,938.38	41.91%	10,870.78	10,870.78
3	62,951.69	.....	62,951.69	41.91%	26,383.05	26,383.05
4	9,568.29	.....	9,568.29	41.91%	4,010.07	4,010.07
5	37,491.78	.....	37,491.78	41.91%	15,712.80	15,712.80
6	243,421.08	.....	243,421.68	41.91%	102,018.03	102,018.03
7	34,441.99	.....	34,441.99	41.91%	14,434.64	14,434.64
9	40,889.07	.....	40,889.07	41.91%	17,136.61	17,136.61
10	34.38	.....	34.38	41.91%	14.41	14.41
11	10,867.78	.....	10,867.78	41.91%	4,554.69	4,554.69
12	449.35	.....	449.35	41.91%	188.32	188.32
13	145.70	.....	145.70	41.91%	61.06	61.06
14	3,024.96	.....	3,024.96	41.91%	1,267.76	1,267.76
15	30,985.75	.....	15,185.87	Spl.	5,352.37	7,788.50
16	37,241.97	.....	5,891.85	Spl.	1,224.33	1,224.33
17	7,000.71	.....	7,000.71	38.46%	2,727.09	2,727.09
18	1,119.15	.....	1,119.15	41.91%	469.04	469.04
19	1,137.85	.....	1,157.85	38.46%	445.31	445.31
20	82.37	.....	82.37	38.46%	31.68	31.68
21	8,063.28	.....	62.23	41.91%	26.08	666.28
22	11,038.89	.....	11,038.89	.....	4,026.40	4,026.40
23		.....		.....		
	\$ 560,534.24	\$ 3,076.33	\$515,361.19	.....	\$212,536.31	\$215,602.64
Changes made by allocating cost of maint. of exclusive freight and pass. tracks—Add						
		592.42	.....	.....	.....	.....
		Deduct	.....	.....	21,834.54	21,242.12
TOTAL....	\$ 560,534.24	\$ 3,668.75	\$515,361.19	.....	190,691.77	194,360.53

## MAINTENANCE OF EQUIPMENT

24	10,124.12	.....	10,124.12	25.49%	2,580.64	2,580.64
25	93,484.84	30,376.42	.....	.....	30,376.42	30,376.42
26	865.85	25.43	.....	.....	25.43	25.43
27	15,498.51	5,538.68	.....	.....	5,538.68	5,538.68
31	34,678.99	34,678.99	.....	.....	34,678.99	34,678.99
33	5,984.95	5,984.95	.....	.....	5,984.95	5,984.95
34	111,017.97	.....	.....	.....	.....	.....
35	246.48	.....	.....	.....	.....	.....
36	45,048.86	.....	.....	.....	.....	.....
43	12,020.96	.....	.....	.....	.....	.....
44	40.27	.....	10,548.39	41.91%	4,420.83	4,420.83
45	2,298.39	.....	35.34	41.91%	14.81	14.81
46	8,391.32	.....	2,016.84	41.91%	845.26	845.26
48	348.60	.....	8,391.32	25.49%	2,138.95	2,138.95
49	1,122.69	.....	348.60	25.49%	88.86	88.86
		.....	1,122.69	25.49%	286.17	286.17
	\$ 341,172.80		\$ 32,387.30	.....	\$ 10,375.52	\$ 86,979.99

## TRAFFIC EXPENSES

53	26,912.28	.....	.....	.....	.....	11,134.99
54	59,418.47	11,134.99	.....	.....	.....	25,108.42
55	4,864.16	25,108.42	.....	.....	.....	4,786.59
56	104.25	4,786.59	.....	.....	.....	.....
57	589.16	.....	.....	.....	.....	.....
58	16,751.09	.....	.....	.....	.....	5,341.92
59	9,678.07	.....	16,751.09	31.89%	5,341.92	3,789.55
		.....	.....	.....	.....	.....
	\$ 98,407.48		\$ 16,751.09	.....	\$ 5,341.91	\$ 50,161.47

\* Red.

## TRANSPORTATION EXPENSES

Acct. No.	Total Opr. Exps. Mich.	Allocated or definitely assigned to Pass.	Common Pass. & Fri.	Per Cent.	Pro. of Com. assigned to Pass.	Total Michigan Passenger
61	17,484.62	.....	17,484.62	28.00%	4,895.69	4,895.69
62	14,911.94	.....	14,911.94	35.9 %	5,353.39	5,353.39
63	143,389.57	.....	68,144.85	35.9 %	24,464.00	35,210.06
64	1,430.58	.....	.....	.....	.....	.....
65	33,719.49	.....	.....	.....	.....	.....
66	10,642.29	.....	10,642.29	.....	2,609.49	2,609.49
67	4,669.45	.....	.....	.....	.....	182.12
68	34,034.55	.....	.....	.....	.....	2,107.35
69	4,818.15	.....	.....	.....	.....	187.91
70	1,246.50	.....	.....	.....	.....	48.61
71	31,899.18	.....	.....	.....	.....	1,244.07
72	14,477.15	.....	.....	.....	.....	564.60
73	25,419.22	.....	.....	.....	.....	991.35
74	1,184.75	.....	.....	.....	.....	46.21
75	406.26	.....	.....	.....	.....	15.84
76	611.30	.....	.....	.....	.....	23.84
77	19,372.05	.....	.....	.....	.....	5,769.49
78	12,759.28	.....	.....	.....	.....	1,586.05
80	159,099.98	.....	.....	35.9 %	1,586.05	58,910.74
81	39,316.34	.....	.....	.....	.....	14,578.46
82	302,691.12	.....	39,316.24	37.08%	14,578.46	96,083.93
83	13,343.93	.....	.....	.....	.....	4,234.86
84	3,091.91	.....	.....	.....	.....	981.25
85	4,366.67	.....	.....	.....	.....	1,386.45
88	182,906.63	.....	.....	.....	.....	55,635.72
89	31,005.48	.....	.....	.....	.....	24,476.18
90	81.08	.....	.....	.....	.....	81.08
91	8,801.65	.....	81.08	41.91%	33.96	33.96
		.....	7,946.45	95.44%	1,840.50	1,840.50

94	189.33	35.9 %	189.33	67.97
97	11,133.50	28.00%	11,133.50	3,117.38
98	46.81	28.00%	34.60	56.50
99	6,372.12	.....	.....	.....
100	80.27	.....	.....	80.27
101	1,912.89	35.9 %	22.45	8.06
102	931.76	.....	.....	.....
103	11,593.78	35.9 %	118.82	42.66
104	83.68	35.9 %	61.51	943.91
105	2,836.10	35.9 %	691.63	106.76
		.....		1,018.33
		.....		\$319,839.83
	\$1,143,065.39	.....	\$104,381.01	
GENERAL EXPENSES				
106	20,723.40	30.40%	20,723.40	6,299.91
107	30,240.71	.....	30,240.71	9,193.18
108	3,093.79	30.40%	3,093.79	940.51
Cost of Suit	23,690.00	.....	.....	.....
109	7,977.66	30.40%	7,977.66	2,334.01
110	3,976.60	.....	2,980.78	1,358.73
112	591.70	.....	501.70	179.87
113	3,016.53	.....	5,016.53	1,525.03
114	3,430.21	.....	3,318.85	1,006.93
115	199.32	.....	.....	126.97
		.....		\$ 22,387.60
	\$ 100,639.92	.....	\$ 73,643.42	\$ 22,967.14

## SUMMARY—1913

	Allocated or definitely assigned to Pass.	Common Pass. & Freight	Pro. of Com. assigned to Passenger	Total Michigan Passenger	Total Michigan Freight
Maint. of Way and Structures.....	\$ 3,668.75	\$515,361.19	\$190,691.77	\$194,360.52	
Maintenance of Equipment.....	76,604.47	32,587.36	10,375.52	86,970.99	
Traffic Expenses.....	44,819.55	16,751.08	5,341.92	50,161.47	
Transportation Expenses.....	264,601.65	164,381.01	55,238.18	319,839.83	
General Expenses.....	579.54	73,643.42	22,387.60	22,967.14	
	\$390,273.96	\$602,724.01	\$284,034.90	\$674,308.95	\$1,545,840.86
* Red.					